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1. Article Addressed to:

Mr. Ed Allsopp
Vice President of Cement Operations
Rinker Materials Corporation
1200 Northwest 137th Avenue
Miami, FL 33182

COMPLETE THIS SECTION ON DELIVERY

A. Received by *(Please Print Clearly)* B. Date of Delivery 3/5/02

C. Signature
X [signature] ☐ Agent ☐ Addressee

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☐ Registered ☐ Return Receipt for Merchandise
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PS Form 3811, July 1999 Domestic Return Receipt 102595-00-M-0952

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Sent To
Ed Allsopp
Street, Apt. No.; or PO Box No.
1200 NW 137th Ave.
City, State, ZIP+4
Miami, FL 33182

7001 0320 0001 3692 9298

PS Form 3800, January 2001 See Reverse for Instructions

MIAMI DAILY BUSINESS REVIEW

Published Daily except Saturday, Sunday and
Legal Holidays
Miami, Miami-Dade County, Florida

STATE OF FLORIDA
COUNTY OF MIAMI-DADE:

Before the undersigned authority personally appeared SOOKIE WILLIAMS, who on oath says that she is the VICE PRESIDENT, Legal Notices of the Miami Daily Business Review f/k/a Miami Review, a daily (except Saturday, Sunday and Legal Holidays) newspaper, published at Miami in Miami-Dade County, Florida; that the attached copy of advertisement, being a Legal Advertisement of Notice in the matter of

INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION

DEP FILE NOS. 0250014-007 & 008-AC PSD-FL-324

in the XXXX Court,
was published in said newspaper in the issues of

12/27/2001

Affiant further says that the said Miami Daily Business Review is a newspaper published at Miami in said Miami-Dade County, Florida and that the said newspaper has heretofore been continuously published in said Miami-Dade County, Florida, each day (except Saturday, Sunday and Legal Holidays) and has been entered as second class mail matter at the post office in Miami in said Miami-Dade County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Sookie Williams

Sworn to and subscribed before me this

27 day of DECEMBER , A.D. 2001

(SEAL)

SOOKIE WILLIAMS personally known to me

MARIA I. MESA
MY COMMISSION # CC 885640
EXPIRES: March 4, 2004
Bonded Thru Notary Public Underwriters

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION
STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DEP FILE NOS. 0250014-007 & 008-AC (PSD-FL-324)
CSR RINKER MATERIALS CORPORATION
MIAMI CEMENT PLANT
MIAMI-DADE COUNTY

The Department of Environmental Protection (Department) gives notice of intent to issue an Air Construction Permit Modification to CSR Rinker Materials Corporation (Rinker). A Best Available Control Technology (BACT) determination and a review for the Prevention of Significant Deterioration (PSD) was required for emissions of volatile organic compounds (VOC) pursuant to Rule 62-212.400, F.A.C. The applicant's name and address are CSR Rinker Materials Corporation, 1200 Northwest 137th Avenue, Miami, Florida 33182.

The main changes proposed in this action are removal of the beryllium limit modification of the VOC emission limit included in the original permit to modernize the plant issued in September 1997. The federal PSD program no longer requires regulation of beryllium. Beryllium is now regulated under the recently promulgated federal cement industry maximum achievable control technology (MACT) standards and only at cement kilns that (unlike Rinker) burn hazardous waste.

The original VOC limit was 0.1 pounds per ton of clinker (lb/ton) and at this value avoided the need for a BACT determination when the modernization was authorized. Rinker requests an increase to 0.12 lb/ton of clinker. The proposed limit is relatively low compared with recent BACT determination for new kilns throughout the country. It is also much lower than the mentioned cement industry VOC MACT standard of approximately 0.3 lb/ton applicable to new kilns at greenfield plants.

Additional changes in the modified permit include: a condition to reflect addition of equipment to reduce operational problems (scale formation) within the kiln; expression of certain emission limitations using industry conventions; and adoption of additional conditions related to monitoring hydrocarbon in raw materials and VOC emissions from the stack. Sewage sludge will be removed from the previously approved slate of waste fuels at the facility.

A notice by the Miami-Dade County Department of Enviromental Resources Management incorporating the above changes into the facility Title V Operation Permit is being provided simultaneously will be published separately.

The Department will issue the FINAL permit modification with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed permit issuance action for a period of fourteen (14) days from the date of publication of "Public Notice of Intent to Issue Air Construction Permit Modification." Written comments should be provided to the Department's Bureau of Air Regulation of 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any; which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the Petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Dept. of Environmental Protection Bureau of Air Regulation 111 S. Magnolia Drive, Suite 4 Tallahassee, Florida, 32301 Telephone: (850) 488-0114 Fax: (850) 922-6979	Dept. of Enviromental Protection Southeast District Office 400 North Congress Avenue West Palm Beach, Florida 33401 Telephone: 407/681-6600 Fax: 407/681-6755	Miami-Dade County Department of Enviromental Resources Management 33 Southwest 2nd Avenue, Suite 900 Miami, Florida 33150-1540 Telephone: 305/372-6925 Fax: 305/372-6954

The complete project file includes the application, technical evaluations, Draft Permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111. F.S. Interested persons may contact the Administrator, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301 or call 850/488-0114, for additional information. Key documents can be viewed at www.dep.state.fl.us/air/permitting/construction.htm by clicking on the Southeast Region of the Florida map.

SENDER: *COMPLETE THIS SECTION*

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1. Article Addressed to:

Mr. Ed Allsopp
V. P. of Cement Operations
CSR Rinker Materials Corporation
1200 Northwest 137th Avenue
Miami, FL 33182

COMPLETE THIS SECTION ON DELIVERY

A. Received by *(Please Print Clearly)* SHARON FEQUIERE — B. Date of Delivery 12/17/01

C. Signature
X
☐ Agent
☐ Addressee

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
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☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Copy from service label)*
7000 2870 0000 7028 2997

PS Form 3811, July 1999 Domestic Return Receipt 102595-99-M-1789

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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

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Sent To
Ed Allsopp
Street, Apt. No.; or PO Box No.
1200 NW 137th Ave.
City, State, ZIP+4
Miami, FL 33182

PS Form 3800, May 2000 See Reverse for Instructions

MIAMI-DADE COUNTY, FLORIDA

MIAMI-DADE

DERM

ENVIRONMENTAL RESOURCES MANAGEMENT
AIR QUALITY MANAGEMENT DIVISION
33 S.W. 2nd AVENUE
SUITE 900
MIAMI, FLORIDA 33130-1540
TELEPHONE: (305) 372-6925
FAX: (305) 372-6954

January 24, 2002

CERTIFIED MAIL NO. 7000 0600 0027 7981 6298
RETURN RECEIPT REQUESTED

Department of Environmental Protection
Division of Air Resources Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Attn: Alvaro Linero, P.E.

Re: Comments on DRAFT Air Construction Permit Modification
FDEP File Nos.0250014-007 & 008-AC, PSD-FL-324
Rinker Materials Corporation, Miami Cement Plant, Miami-Dade County

Dear Mr. Linero:

The Miami-Dade Department of Environmental Resources Management (DERM) received the Draft Air Construction Permit Modification issued by DEP on December 14, 2001, for the Rinker Materials Corporation facility in Miami. DERM also received a copy of John Koogler's memo dated December 21, 2001 regarding said permit.

DERM staff discussed some of the terms and conditions of this permit and Mr. Koogler's memo with Alvaro Linero and Gregory De Angelo of DEP. Pursuant to the public notice published on December 27, 2001, and subsequent discussions with DEP staff, our comments for your consideration regarding this draft permit are as follows:

1. As the compliance authority for Miami-Dade County, we concur with DEP that there must be a mechanism specified clearly in the final construction permit to determine compliance with the VOC emissions limit. DERM recommends that DEP specify in the construction permit one of the following methods for compliance determination:
    a. Option 1: CEMS shall be used to determine compliance with the VOC emissions limit of 0.12 lb/ton of clinker, proposed in the construction permit. Rinker would have the option of installing appropriate CEMS to measure non-methane total hydrocarbons (NMTHC). Rinker could choose to install CEMS to measure total hydrocarbons, and in that case, the total hydrocarbons will be considered as all VOCs.

Or

b. Option 2: Rinker would install VOC CEMS for the purpose of reasonable assurance. In that case, the following must be required of Rinker for compliance determination:
    i. A Relative Accuracy Test Audit, RATA, for the VOC CEMS on an annual basis. Stack gas emissions should be used for all RATA certification samples.
    ii. An annual VOC compliance testing requirement to include Method 25 or Method 25A in conjunction with Method 18.

2. In Condition B-10, use the correct abbreviation "NMTHC" instead of "THC" when referencing non-methane total hydrocarbons (NMTHC).

3. Clearly specify the "averaging period" of CEMS for VOC measurements as one (1) hour averages determining the 30-day rolling average in the text of Specific Condition B-10 and in Table 1-2, Air Pollutant Standards and Terms. Explain hourly averaging by specifying the minimum number of hourly data points in Table 2-1, Compliance Requirements. DERM recommends the 30-day averaging be calculated by adding the hourly VOC measurements during a 30-day averaging period and dividing it by the total number of hours operated.

4. Condition B-13 requires Method 25 or Method 25A to determine VOC emissions from Stationary Sources. It requires such testing on a quarterly basis from the fourth quarter 2001 through second quarter 2002. Considering that December (fourth quarter) 2001 has ended, DERM suggests the following modified language to indicate compliance testing until VOC CEMS is installed, whether for compliance or reasonable assurance:
    a. "A Method 25 or 25A test be conducted within 30 days of issuance of the final construction permit, and continued quarterly thereafter until the CEMS is installed, tested and certified."

5. The annual Relative Accuracy Test Audit, RATA, must be included as an item in Table 2-1.

6. Appropriate changes (depending upon the option chosen in comment 1 of this letter) must be made to Table 2-1 with regards to VOC to reflect the requirements on the test methods, testing time frequency, CMS compliance, etc.

If you have any questions regarding these comments, please contact me at (305) 372-6921.

Sincerely,

Mallika Muthiah

Mallika Muthiah, P.E., Chief
DERM Air Facilities Section

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

December 14, 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Ed Allsopp
Vice President of Cement Operations
CSR Rinker Materials Corporation
1200 Northwest 137th Avenue
Miami, Florida 33182

Re: DEP File No. 0250014-007 & 008-AC (PSD-FL-324)
Miami Cement Plant

Dear Mr. Allsopp:

Enclosed is one copy of the Draft Air Construction Permit Modification for the Miami Cement Plant. The Department's Technical Evaluation, Intent to Issue Air Construction Permit Modification, and the "Public Notice of Intent to Issue Air Construction Permit Modification" are also included.

The "Public Notice" must be published one time only as soon as possible in a newspaper of general circulation in the area affected, pursuant to the requirements Chapter 50, Florida Statutes. Proof of Publication, such as a newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in denial of the permit modification. The Department reserves the right to publish the Public Notice at anytime. If the Department publishes the Public Notice, the applicant is relieved of this responsibility.

Please submit any written comments you wish to have considered concerning the Department's proposed action to A.A. Linero, P.E. Administrator, New Source Review Section at the letterhead address. If you have any questions please call Mr. Greg DeAngelo at 850/921-9506 or Mr. Linero at 850/921-9523.

Sincerely,

A.A. Linero P.E.

for C.H. Fancy, P.E., Chief
Bureau of Air Regulation

CHF/al

Enclosures

EXHIBIT A

DRAFT

Month Date, 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Ed Allsopp
Vice President of Cement Operations
CSR Rinker Materials Corporation
1200 Northwest 137th Avenue
Miami, Florida 33182

Re: DEP File No. 0250014-007 & 008-AC (PSD-FL-324)
Modernization Project/Permit Extension

Dear Mr. Allsopp:

This is pursuant to: your air construction permit extension request dated September 7, 2000; additional requests consolidated in the letter from Koogler and Associates dated June 14, 2001; letters received from Oertel, Hoffman, Fernandez, and Cole, P.A. dated October 5 and 22, 2001, seeking time extensions for taking action on the mentioned requests; and your air construction permit application for modification received by the Department on November 19, 2001.

The Department hereby modifies the original air construction permit issued for the modernization project (September, 1997) as described below. Details of the rationale for the following changes are given in the Department's Technical Evaluation and Preliminary Determination dated December 14, 2001, as well as the enclosed final determination accompanying this letter.

EXPIRATION DATE

The expiration date is hereby extended until March 31, 2002. All physical construction required to make cement and to conduct initial testing is complete. This permit modification authorizes work addressed in the Compliance Plan of Rinker's Title V Operating Permit and further work only for the purpose of installing the bypass, a continuous emission monitoring system (CEMS) for volatile organic compounds (VOC), and additional equipment to burn the specified non-hazardous waste fuels (other than sewage sludge).

Additional work beyond March 31, 2002, on the described projects (other than installation of the VOC monitor) described above shall require submittal of an air construction permit application to the Miami-Dade County Department of Environmental Resources Management.

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

SUBSECTION A. COMMON CONDITIONS

EMISSION UNITS

.... This cement plant is subject to the applicable requirements of the New Source Performance Standards (NSPS) and the National Emissions Standards for Hazardous Air Pollutants (NESHAP), adopted by reference in Rules 62-204.800(7) and (10), F.A.C., including:

- 40 CFR 60 Subpart F, Standards of Performance for Portland Cement Plants.
- 40 CFR 60, Subpart Y, Standards of Performance for Coal Preparation Plants
- 40 CFR 60, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants
- 40 CFR 60, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23,1984

operator shall report no later than the 10th day following each calendar quarter a summary of the 30-day rolling average THC emissions for the days of that calendar quarter to the Miami-Dade County Department of Environmental Resources Management. These results should be reported as pounds per hour (propane equivalence) and pounds per ton of clinker (propane equivalence. **[Rule 62-4.070, F.A.C.]**

B.13 For emissions other than NO_x and SO_2, and for VOC emissions prior to June 30, 2002, compliance with the allowable emission limiting standards listed in Revised Table 1-2 shall be determined by using the following reference methods as described in 40 CFR 60, Appendix A (1996, version) and 40 CFR 61 Appendix B (1996, version) adopted by reference in Chapter 62-204, F.A.C.

Method 5	Determination of Particulate Matter Emissions from Stationary Sources (I) and (A).
Method 8	Determination of Sulfuric Acid Mist from Stationary Sources (I).
Method 9	Visual Determination of the Opacity of Emissions from Stationary Sources (I) and (A).
Method 10	Determination of Carbon Monoxide Emissions from Stationary Sources (I) and (A).
Method 25 or 25A	Determination of Volatile Organic Compound Emissions from Stationary Sources (I) and ~~(A)~~(Quarterly, from fourth quarter 2001 through second quarter 2002).
Method 29	Determination of Lead, ~~Beryllium,~~ and Mercury from Stationary Sources (I).

Prior to June 30, 2002, permittee shall determine the total hydrocarbon (THC) content for each incoming shipment of raw materials through the Department's Method FL-PRO or through some other method approved by the Miami-Dade County Department of Environmental Resources Management.

Emission testing shall be performed at the kiln/cooler main stack during a period when the kiln precalciner, cooler, raw mill and preheater are operating simultaneously and under normal operating conditions. EPA-reference methods for sampling pollutants shall be as specified in 40 CFR 60, Appendix A. Prior to any emission testing to demonstrate compliance with any emission limit, the permittee shall determine the clinker production rate for the test according to a factor based on the preheater/precalciner feed rate and notify the appropriate local compliance agency in advance of the commencement of any test(s). That rate of clinker production shall be used to determine compliance with all clinker-based emission limits in the permit for that test.

These emission units shall comply with all applicable requirements of Rule 62-297.310, F.A.C. General Test Requirements and 40 CFR 60.8. Performance Tests. Revised Table 2-1, Compliance Requirements (attached) also lists the EPA methods.

Testing of emissions shall be conducted with the emission unit operating at capacity and under the different permitted fuels scenarios (petroleum coke, coal, on or off specification used oil, TDF, solid waste, etc.) as specified in Specific Condition No.B.5. Fuel Combustion. The permittee shall provide DERM with a *protocol* that will outline the different fuel scenarios (% of total heat input) that this unit will be burning. Rinker shall obtain the test data necessary to determine whether this kiln is capable of accommodating the burning of coal or petroleum coke and all of the other supplemental fuels specified on Specific Condition B.5. Fuel Combustion. The fuel scenarios tested shall represent the actual combustion percentage (% of total heat input) that is going to be maintained while burning supplemental fuels during normal operation. The frequency of testing shall be determined by DERM.

Permitted capacity is defined as 90-100% of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then the unit may be tested at less than 90% of the maximum operating rate allowed by the permit; in this case, subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen consecutive days for the purpose of additional compliance testing to regain the permitted capacity in the permit. **[Rules 62-204.800, 62-297.310, 62-297.400, 62-297.401, F.A.C., and 40 CFR 60 Appendix A and 40 CFR 60.8, Subpart A].**

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. The Miami-Dade County Department of Environmental Resources Management will revise the present Title V Operation Permit as advised in the Notice of Final (Title V) Permit dated October 31, 2000.

Revised Table 1-2. Air Pollutant Standards and Terms.

FACILITY ID NUMBER: 0250014

DEP File Nos. 0250014-007 & 008-AC (PSD-FL-324)
Original DEP File No. 0250014-002-AC
Portland Cement Plant and Associated Equipment
16.5 Dry Process Technology

Permittee:
Rinker Materials Corporation

Emission Unit - Kiln System
Cement Plant Modernization

E.U. ID#	Description	Pollutant ID	Fuel(s) [2]	Allowable Emissions [3] Permit limits	Allowable Emissions [3] lb/hr	Equivalent Emissions [4] TPY	Basis
ARMS #	Kiln/Cooler/Raw Mill	PM	coal/gas/WTDF/oil	0.20 lb/ton $kiln_{ph}$ feed *	44	193	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	PM_{10}	coal/gas/WTDF/oil	0.17 lb/ton kiln feed *	37.40	164	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	SO_2	coal/gas/WTDF/oil	~~0.7 lb/MMBTU~~	306	1340	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	NO_x	coal/gas/WTDF/oil	2.23 lb/ton of clinker ~~1.53 lb/MMBTU~~	671	2940	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	CO	coal/gas/WTDF/oil	4.9 lb/ton of clinker 3.01 lb/ton clinker	412	1807	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	VOC	coal/gas/WTDF/oil	~~0.1 lb/ton clinker~~ 0.12 lb/ton clinker	~~13.7~~ 16.4	~~60~~ 72	~~RMC - Data~~ BACT
ARMS #	Kiln/Cooler/Raw Mill	H_2SO_{4mist}	coal/gas/WTDF/oil	0.014 lb/ton clinker	1.92	8.4	AP - 42
~~ARMS #~~	~~Kiln/Cooler/Raw Mill~~	~~Beryllium~~	~~coal/gas/WTDF/oil~~	~~$6.6x10^{-7}$ lb/ton clinker~~	~~9.04E-05~~	~~0.000396~~	~~AP - 42~~
ARMS #	Kiln/Cooler/Raw Mill	Mercury	coal/gas/WTDF/oil	$2.4x10^{-5}$ lb/ton clinker	3.30E-03	0.014	AP - 42
ARMS #	Kiln/Cooler/Raw Mill	Lead	coal/gas/WTDF/oil	$7.5x10^{-5}$ lb/ton clinker	0.01	0.045	AP - 42
ARMS #	Kiln/Cooler/Raw Mill	VE	coal/gas/WTDF/oil	10% opacity			NSPS

ALLOWABLE OPERATING RATES

		Kiln/Cooler/Raw Mill
Hours of operation per year	Hours	8760
Kiln preheater feed rate ($kiln_{ph}$) *	TPH	220
Kiln Heat Input	MMBtu/hr	437
Clinker Production [1]	TPH	137
Cooler throughput rate	TPH	137

NOTES
[1] At a maximum design clinker production rate of 137 TPH and preheater feed rate of 220 TPH, utilizing a conversion factor of 0.60: (220 x 0.60 = 137).
[2] Fuel combustion as specified in Specific Condition No. B.5, and the protocols established by DERM. See also Specific Condition B.13.
[3] Compliance Units. This facility shall demonstrate compliance based on these standards.
[4] "Equivalent Emissions" are based on annual emissions at 8760 hrs/yr. The "Equivalent Emissions" are also listed for informational purpose and for PSD and recordkeeping tracking purposes.

Revised Table 2-1. Compliance Requirements.

FACILITY ID NUMBER: 0250014

Original DEP File No. 0250014-002-AC
Permit Modification No. 0250014-007 & 008-AC

Permittee:
Rinker Materials Corportion
Portland Cement Plant No. 2 and Associated Equipment

E.U. ID#	Description	Pollutant Name or parameter	Fuel(s) [1]	EPA/Reference Method/CMS *	Testing Time Frequency	Min. Compliance Test Duration	CMS * Compliance
ARMS #	Kiln/Cooler/Raw Mill	PM/PM_{10}	Oil/Coal /Gas/WTDF	5 or 201/201A	initial/annual [8]	3 one-hr run	
ARMS #	Kiln/Cooler/Raw Mill	VE	Oil/Coal/Gas/WTDF	9/COMS	initial/annual/COMS	3 one-hr run	No [4]
ARMS #	Kiln/Cooler/Raw Mill	SO_2	Oil/Coal/Gas/WTDF	CEMS	daily average	continuous	Yes [6]
ARMS #	Kiln/Cooler/Raw Mill	NOx	Oil/Coal/Gas/WTDF	CEMS	daily average	continuous	Yes [3]
ARMS #	Kiln/Cooler/Raw Mill	CO	Oil/Coal/Gas/WTDF	10 [5]	initial/annual	3 one-hr run	
ARMS #	Kiln/Cooler/Raw Mill	VOC	Oil/Coal/Gas/WTDF	25 or 25A [2]	initial	3 one-hr run	Yes[2]
ARMS #	Kiln/Cooler/Raw Mill	H_2SO_4 mist	Oil/Coal/Gas/WTDF	8	initial	3 one-hr run	
ARMS #	Kiln/Cooler/Raw Mill	Hg, ~~Pb, Be~~	Oil/Coal/Gas/WTDF	29	initial	3 one-hr run	
ARMS #	Fugitive sources	VE		9	Protocol [7]		
ARMS #	Minor Sources	VE		9	initial/annual	3 one-hr run	

[1] Initial compliance testing shall be conducted under all the scenarios this facility is planning to operate under. Specific condition B.13. Annual testing of emissions shall be conducted during the worst case scenario that this facility would normally operate under. Frequency of testing after initial compliance shall be determined by DERM. Fuels to be burned are specified in Specific Condition B.5.

[2] VOC emission shall be tested initially and then quarterly beginning the fourth quarter of 2001 (by December 31, 2001) to comply with the condition of this permit. ~~Thereafter, compliance will be assumed provided the CO allowable emission rate is reached~~ . The RATA test conducted for a new VOC CEMS monitor shall meet the requirement for the test conducted in the second quarter of 2002. Thereafter the VOC CEMS shall provide the continuous compliance method and quarterly testing will no longer be required.

[3] NO_x - The continuous emission monitoring system (CEMS) data shall be used for the Kiln for compliance requirement. The CEMS calibration and maintenance shall meet the applicable requirements of 40 CFR 60, Appendix B and Appendix F.

[4] Pursuant to 40 CFR 60, Subpart F, the kiln/cooler exhaust system shall be equipped with continuous opacity monitoring system (COMS) to record the opacity at the stack to indicate proper maintenance and operation. Monitoring of the opacity of emissions shall be demonstrated by COMS pursuant to 40 CFR 60.63. Notification and recordkeeping shall be in accordance with 40 CFR 60.7 and 40 CFR 60.65.

[5] Continuous process monitors for CO and/or O_2 to optimize combustion conditions for pollution control shall be part of the process.

[6] SO_2 - The continuous emission monitoring (CEMS) data shall be used for the Kiln compliance requirement. The CEMS calibration and maintenance shall meet the applicable requirements of 40 CFR 60, Appendix B and Appendix F.

[7] Protocol as approved by the Permitting Authority (DERM).

[8] Rinker has the option of using Method 5 if they stipulate that all of the PM is PM_{10}.

* CMS [=] compliance demonstrated by a continuous monitoring system: CEMS or COMS.

In the Matter of an
Application for Permit by:

CSR Rinker Materials Corporation
1200 Northwest 137th Avenue
Miami, Florida 33182

DEP File Nos. 0250014-007 & 008-AC (PSD-FL-324)
Extension and Modification of Construction Permit
Miami Cement Plant
Miami-Dade County

INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit modification (copy of DRAFT Permit Modification attached) for the proposed action, detailed in the application specified above and the attached Technical Evaluation and Preliminary Determination, for the reasons stated below.

The applicant, CSR Rinker Materials Corporation, applied by letter dated September 7, 2000 to the Department to extend the expiration date of its current permit to construct (modernize) the Miami Cement Plant in Miami-Dade County. The primary purposes were to allow additional time to complete testing, to design and install a tire handling and burning system, and to add equipment to reduce operational problems (scale formation) within the kiln. Rinker subsequently modified its request (June 28 and November 19, 2001) to remove the beryllium limit, express certain emission limitations using industry conventions, and to modify the volatile organic compounds (VOC) emissions standards.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4, 62-210, and 62-212 of the Florida Administrative Code (F.A.C.). The above actions are not exempt from permitting procedures. The Department has determined that an air construction permit modification and a determination of Best Available Control Technology pursuant to Rule 62-212.400, F.A.C. for VOC is required.

The Department intends to issue this air construction permit based on the belief that the applicant has provided reasonable assurances to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C. In addition, the Miami-Dade Department of Environmental Resources Management (DERM) intends to incorporate the proposed modifications into the applicant's Title V Air Operation Permit; and, the Public Notice is a combined notice and addresses the Intent to Issue this proposed permitting action and the Miami-Dade DERM modification to the applicant's Title V Air Operation Permit simultaneously.

Pursuant to Section 403.815, F.S., and Rule 62-110.106(7)(a)1., F.A.C, you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Construction Permit Modification. The notice shall be published as soon as possible one time only in the legal advertisement section of a newspaper of general circulation in the area affected. Rule 62-110.106(7)(b), F.A.C., requires that the applicant cause the notice to be published as soon as possible after notification by the Department of its intended action. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 850/488-0114; Fax 850/922-6979). You must provide proof of publication within seven days of publication, pursuant to Rule 62-110.106(5), F.A.C. No permitting action for which published notice is required shall be granted until proof of publication of notice is made by furnishing a uniform affidavit in substantially the form prescribed in Section 50.051, F.S. to the office of the Department issuing the permit. Failure to publish the notice and provide proof of publication may result in denial of the permit pursuant to Rules 62-110.106(9) & (11), F.A.C.

The Department will issue the final permit modification with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed permit issuance action for a period of 14 (fourteen) days from the date of publication of Public Notice of Intent to Issue Air Permit Modification. Written

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

Executed in Tallahassee, Florida.

for C. H. Fancy, P.E., Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION (including the PUBLIC NOTICE, Technical Evaluation and Preliminary Determination, and the DRAFT permit modification) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 12/14/01 to the person(s) listed:

Ed Allsopp, VP, Rinker*
Mike Vardeman, Rinker
Gregg Worley, EPA
John Bunyak, NPS
Isidore Goldman, DEP SED
H. Patrick Wong, Miami-Dade DERM
John Koogler, PhD., P.E., K&A
Martha Nebelsiek, Esq., DEP OGC
Segundo J. Fernandez, Esq., OHF&C ✓

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.

Victoria Gibson (Clerk) 12/14/01 (Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP File Nos. 0250014-007 & 008-AC (PSD-FL-324)

CSR Rinker Materials Corporation
Miami Cement Plant

Miami-Dade County

The Department of Environmental Protection (Department) gives notice of intent to issue an Air Construction Permit Modification to CSR Rinker Materials Corporation (Rinker). A Best Available Control Technology (BACT) determination and a review for the Prevention of Significant Deterioration (PSD) was required for emissions of volatile organic compounds (VOC) pursuant to Rule 62-212.400, F.A.C. The applicant's name and address are CSR Rinker Materials Corporation, 1200 Northwest 137th Avenue, Miami, Florida 33182.

The main changes proposed in this action are removal of the beryllium limit and modification of the VOC emission limit included in the original permit to modernize the plant issued in September 1997. The federal PSD program no longer requires regulation of beryllium. Beryllium is now regulated under the recently promulgated federal cement industry maximum achievable control technology (MACT) standards and only at cement kilns that (unlike Rinker) burn hazardous waste.

The original VOC limit was 0.1 pounds per ton of clinker (lb/ton) and at this value avoided the need for a BACT determination when the modernization was authorized. Rinker requests an increase to 0.12 lb/ton of clinker. The proposed limit is relatively low compared with recent BACT determination for new kilns throughout the country. It is also much lower than the mentioned cement industry VOC MACT standard of approximately 0.3 lb/ton applicable to new kilns at greenfield plants.

Additional changes in the modified permit include: a condition to reflect addition of equipment to reduce operational problems (scale formation) within the kiln; expression of certain emission limitations using industry conventions; and adoption of additional conditions related to monitoring hydrocarbon in raw materials and VOC emissions from the stack. Sewage sludge will be removed from the previously approved slate of waste fuels at the facility.

A notice by the Miami-Dade County Department of Environmental Resources Management incorporating the above changes into the facility Title V Operation Permit is being provided simultaneously will be published separately.

The Department will issue the FINAL permit modification with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed permit issuance action for a period of fourteen (14) days from the date of publication of "Public Notice of Intent to Issue Air Construction Permit Modification." Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

TECHNICAL EVALUATION

AND

PRELIMINARY DETERMINATION

CSR RINKER MATERIALS CORPORATION
MIAMI, DADE COUNTY, FLORIDA

Portland Cement Manufacturing Facility
Modernization and Expansion Project
Finalization of Emissions and Monitoring Conditions
VOC BACT Determination

DEP File Nos. 0250014-007 & 008-AC
PSD-FL-324

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

December 14, 2001

I. APPLICANT NAME AND ADDRESS

CSR Rinker Materials Corporation
1200 NW 137th Avenue
Miami, Florida 33182

II. FACILITY INFORMATION

A. FACILITY LOCATION

CSR Rinker Materials Corporation (Rinker) recently modernized the existing Miami Cement Plant by replacing the wet process cement plant with a 1.2 million tons per year (TPY) clinker dry-process cement production line [137 ton of clinker per hour (TPH)].

This site is approximately 8.2 kilometers to the Everglades National Park, a Class I Prevention of Significant Deterioration (PSD) Area, and in an ozone (O_3) maintenance area in Dade County.

B. FACILITY CLASSIFICATION CODE (SIC)

Major Group No. 32, Clay, Glass, and Concrete Products
Industry Group No. 324 Cement, Hydraulic
Industry No. 3241 Cement, Hydraulic

C. FACILITY CATEGORY

The Rinker Materials Corporation (Rinker) Miami Cement Plant directly emits more than 100 TPY of several regulated air pollutants and emits over 10 TPY of at least one hazardous air pollutant (HAP). Therefore it is classified as a "Major Source of Air Pollution or Title V Source," per the definitions in Rule 62-212.200, F.A.C.

This industry is listed in Table 212.400-1, "Major Facilities Categories", Section 62-212.400, F.A.C. Therefore, stack and fugitive emissions of over 100 TPY of carbon monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO_2), nitrogen oxides (NO_X), or particulate matter (PM/PM_{10}) characterize the existing installation as a Major Facility per the definitions in Rule 62-210.200, F.A.C. and subject to applicability review for the requirements of PSD per Rule 62-212.400, F.A.C.

Per Table 212.400-2, "Regulated Air Pollutants – Significant Emission Rates", modifications at the facility resulting in emissions increases greater than 40 TPY of NO_X or SO_2, 7 TPY of sulfuric acid mist (SAM), 25/15 TPY of PM/PM_{10}, 3 TPY of fluorides, 1200 pounds per year (lb/yr) of lead or 200 lb/yr of mercury require review per the PSD rules and a determination for Best Available Control Technology (BACT) per Rule 62-212.400, F.A.C.

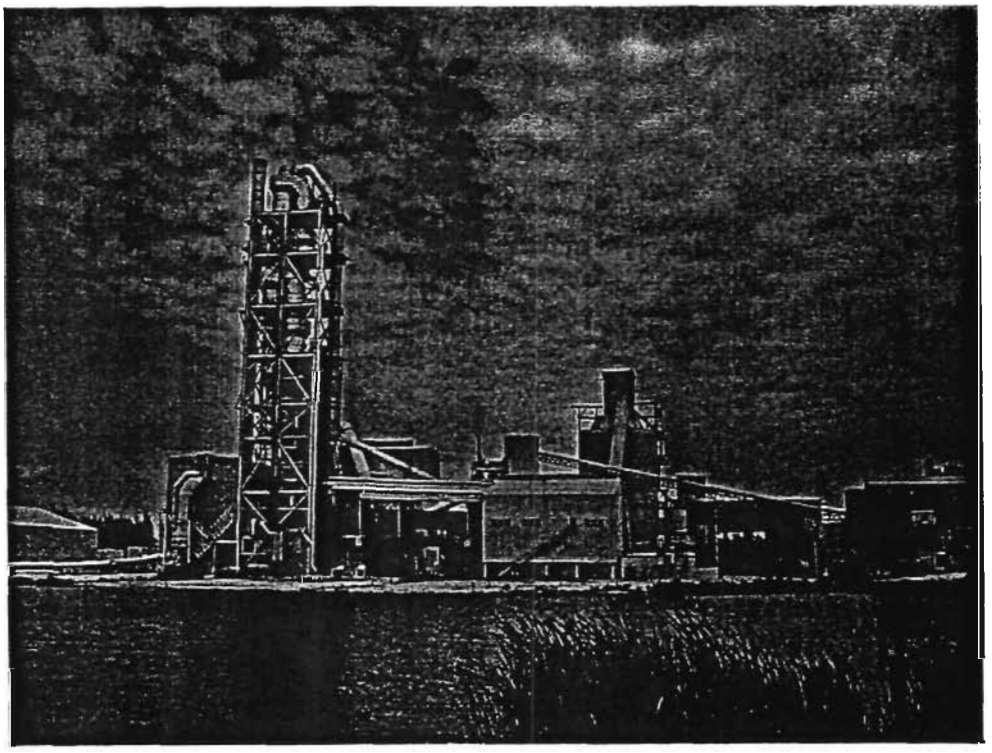
The approved Rinker modernization project was not subject to New Source Review including the PSD provisions because the modernized plant was expected to result in less overall air pollution than the existing plant. This is primarily due to the lower fuel requirements per unit of product characteristic of the dry processes.

III. MODERNIZATION PROJECT

The Department issued a permit to Rinker on September 11, 1997 to modify the existing wet process plant by incorporating the modern dry process technology including a preheater and precalciner along with indirect firing. The dry process preheater/precalciner (PH/PC) kiln is the most fuel-efficient cement pyroprocessing technology currently available. Thermal efficiencies will be improved with the PH/PC kiln and the amount of fuel combusted per ton of clinker produced is expected to be reduced

The modernized cement plant will produce up to 137 TPH of clinker (highest maintained rate over a day). The annual potential production rate will not exceed 1.2 million TPY of clinker. The major equipment will include a PH/PC kiln, a clinker cooler, raw mill, finish mill, silos, conveyers, and particulate control/dust collection and recycling equipment. The cement product will be stored in silos and shipped in bags or in bulk by rail or truck.

A more complete project and process description was provided in the Technical Evaluation and Preliminary Determination issued for the modernization project on June 23, 1997. Rinker completed basic construction of the dry process kiln line in Spring of 2000. Compliance tests were conducted during the second half of the year. Following is a photograph of the constructed dry process plant taken in late June 2001.



CSR Rinker Modernized Dry Process Cement Plant in Miami, Florida

IV. PERMIT EXTENSION REQUEST

The original construction permit provided for an expiration date of May 30, 1999. The permit was revised in 1999 to show an expiration date of September 30, 2000. The Department received a request to further extend the permit (until March 31, 2002) on September 8, 2000. The stated purpose of the extension was for consistency with a Proposed Title V Operation Permit and to conduct additional work to:

- Try out various raw materials to resolve production-limiting issues.
- Design and possibly install a chloride reduction system.
- Design and construct a tire/waste handling system.

The extension of time was addressed through a Compliance Plan incorporated into the Final Title V Operation Permit issued by the Miami-Dade County Department of Environmental Resources Management (DERM).

V. ADDITIONAL PERMIT REQUESTS

Over a period of time, Rinker asked for some additional permit modifications and consolidated them in a single letter plus attachments dated June 14, 2001.

The additional requests are to:

- Adopt emission limit units and reporting requirements for sulfur dioxide and nitrogen oxides that are more consistent with the units for other pollutants from the same plant and the practice at other cement plants throughout the state.
- Propose compliance assurance requirements for VOC beyond initial testing associated with the plant modernization project.
- Remove the beryllium limit in accordance with a Rule revision that removed beryllium as a pollutant regulated under the Department and EPA PSD regulations.
- Propose a variable factor to convert kiln preheater feed rates to clinker production rates for the purposes of calculating emissions based on process rates. Concur with a Department initiative to require empirical raw materials to clinker conversion factors prior to conducting future tests.

VI. VOC BACT DETERMINATION REQUEST

On November 19, 2001, Rinker submitted a request that the Department perform a determination of BACT pursuant to the PSD rules (62-212.400, F.A.C.). The main reason for Rinker's request is that the limit accepted by the company to avoid PSD during the modernization project is very difficult to meet for reasons that are discussed below.

VII. PRESENT SITUATION

As of this time, all physical construction required to make cement at or near the permitted production limit is complete. No facilities have been installed to burn permitted supplementary fuels such as tires, sewage sludge, and non-hazardous solid wastes. A Title V Operation Permit with a Compliance Plan was issued in October 2000. Compliance testing has been conducted. Following are the results of tests for certain pollutants of interest to the Department.

Pollutant	Permit Limit	Result
SO_2	0.70 lb/mmBtu	0.01 lb/mmBtu (~0.03 lb/ton)
NO_X	1.53 lb/mmBtu	1.0 lb/mmBtu (~3 lb/ton clinker)
Beryllium	0.66×10^{-6} lb/ton clinker	1.16×10^{-6} lb/ton clinker
VOC	0.1 lb/ton clinker	0.1 lb/ton clinker

Based on the results, it is clear that emissions of SO_2 are much less than permitted. In fact emissions of SO_2 are now measured in the "tens of tons per year" instead of "thousands" of tons per year. The low emissions are confirmed by the continuous emissions monitoring system (CEMS) installed as a requirement of the modernization permit

Emissions of NO_X are lower than permitted. Prior to the modernization project, emissions were in excess of the 2 lb/mmBtu limit required by the Department's Reasonable Available Control Technology (RACT) regulation for the cement industry in Southeast Florida. The value achieved of 1 lb/mmBtu reflects a substantial reduction in total emissions based on a past-actual-to-future potential emissions basis. The test results are further confirmed by the NO_X CEMS installed as a requirement of the modernization permit.

The emissions of VOC are at the allowable limit based on lb/ton of clinker produced. However annual emissions are still less than the value that would have triggered PSD. The permit required only an initial test for VOC and relied upon carbon monoxide testing as a surrogate for VOC.

The beryllium test result exceeded the permitted limit that was accepted to avoid triggering PSD. Details are discussed below.

VIII. EVALUATION OF UNITS FOR REPORTING SO_2 AND NO_X EMISSIONS

The Department adopted emission limits in terms of lb/mmBtu for SO_2 and NO_X because the applicable requirements were given in these terms. These include the limits in Chapter 24 of the Miami-Dade County Code of 1.1 and 1.2 lb SO_2/mmBtu for liquid and solid fuels respectively. The permit limit was set at 0.70 lb SO_2/mmBtu to avoid PSD applicability as part of a netting calculation.

The SO_2 emissions are significantly lower than permitted. The reason is that the dry preheater/calciner process provides an opportunity for self-scrubbing of the exhaust gases by finely-divided lime. Therefore virtually all fuel sulfur is removed in this manner. The raw

materials fed into the preheater apparently contain minimal sulfur (such as pyrites). Therefore SO_2 emissions from "roasting" in the upper stages of the preheater are minimal.

The Department has reasonable assurance that the project easily complies with the Miami-Dade ordinance and proposes to reset the permit limit to the "lb/ton of clinker" equivalent of 0.70 lb SO_2/mmBtu. The equivalent value is 2.23 lb SO_2/ton of clinker based on the emission limit of 306 lb/hour divided by the permitted clinker production limit of 137 tons per hour.

The NO_X emissions are roughly 60 percent of the permitted value and are roughly equal to levels expected by the Department for the type of kiln installed by Rinker (preheater/precalciner without staged combustion). The actual emissions are about half of the emission limit per the Department's RACT rule applicable to the cement industry of 2.0 lb NO_X/mmBtu.

The permit limit is 1.53 lb NO_X/mmBtu. This was the limit needed to "net out" of PSD during the permitting of the modernization project and meet the RACT rule. The equivalent value is 4.9 lb NO_X/ton of clinker based on the emission limit of 671 lb/hour divided by the permitted clinker production limit of 137 tons per hour.

The Department concludes that that the kiln will comply with the applicable NO_X emission limits by complying with a limitation of 4.9 lb NO_X/ton of clinker. Furthermore on the basis of tests conducted, the Department has reasonable assurance that the unit complies with the NO_X emissions limits.

IX. BERYLLIUM LIMITATION

The beryllium emissions are greater than permitted by about 50 percent. The Department believes that for this type of kiln, raw materials and fuels, baghouses represent the proper technology to control beryllium emissions. The company installed a baghouse but accepted a low value to avoid PSD.

The Department recognizes that the EPA and the Department no longer regulate beryllium as a "PSD pollutant". The pollutant is now regulated under industry-specific rules pursuant to Title III of the Clean Air Act. The Maximum Achievable Control Technology (MACT) rules applicable to cement kilns regulate beryllium at kilns that (unlike Rinker) burn hazardous waste.

For reference, according to an EPA review for setting the cement industry MACT standard emissions of beryllium from 24 kilns ranged from 0.05 to 2.2 $\mu g/m^3$ at 7 percent oxygen. The average is approximately 0.56 $\mu g/m^3$. Rinker reported that its emissions of beryllium were 0.37 $\mu g/m^3$ at 7% O_2. The Department will modify the permit accordingly.

X. BACKGROUND ON VOC ISSUE

The following table is from the Technical Evaluation and Preliminary Determination in support of the modernization permit issued in 1997. The permit allowed an increase of only 32.9 TPY, of which 20.5 TPY were consumed by a contemporaneous soil remediation thermal unit project.

CONTEMPORANEOUS CREDITABLE CHANGES (TPY) [1]

Pollutants	Modernization Project	(+) Increases (Contemporaneous)	(-) Decreases (Shutdowns)	= Total	PSD Significance
PM	353	23.5	539.8	-163.3	25
PM_{10}	285	8.3	283.5	9.8	15
SO_2	1340	36.8	1884.8	-108.0	40
NO_x	2940	60.4	2988.6	11.8	40
CO	1807	15.4	1764.8	57.6	100
VOC	**60**	**20.5**	**47.6**	**32.9**	**40**
SO_3	8.4	0	21.8	-13.4	7

1. Sum of Contemporaneous Creditable Changes (TPY) detailed in Rinker's letter dated April 16, 1997.

As a result, an increase in kiln emissions from 47.6 actual TPY to 60 potential TPY was allowed despite a near doubling in cement output. Emissions of VOC from raw materials in the old wet process were masked by the fact that raw materials are slurried and then dried, calcined, and converted to clinker within the kiln. It was apparently believed that VOC would be evolved in the kiln and would be destroyed in the calciner that would act somewhat as an afterburner.

A similar assumption was made for the new preheater calciner kiln constructed by Florida Rock in Newberry, Florida. In that case, a BACT limit for VOC was set at 0.12 lb/ton of clinker. The company initially failed to achieve the permitted limit and was able to do so after an extensive program to diagnose the causes and potential remedies. Testing at Rinker was scheduled after the testing at Florida Rock and Rinker (with difficulty) met its more stringent limit of 0.1 lb/ton of clinker.

It is quite likely that the Department would have issued a higher BACT limit than the limit necessary to avoid PSD if the request had been made at that time. It is noted that the modernization permit required only the initial test for VOC and that no further testing is specified by the Title V Operation permit. Nevertheless, Rinker has requested both a new limit and permanent testing and monitoring requirements to be incorporated into the Title V Operation Permit.

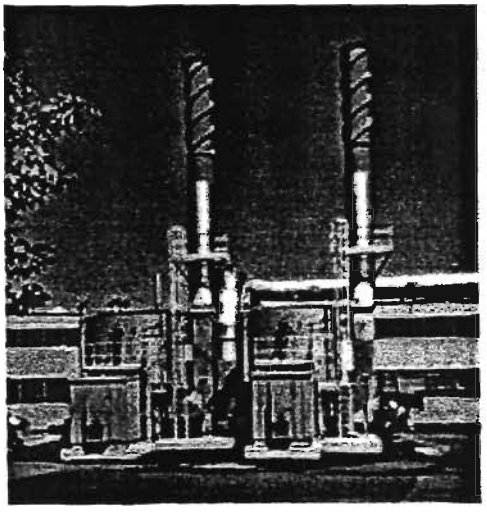
Rinker's request to increase the emission rate to 0.12 (matching the Florida Rock limitation) will result in annual VOC emissions of approximately 72 TPY. This would trigger PSD per the above table because emissions increases including contemporaneous increases and decreases would be approximately 45 TPY versus the PSD threshold of 40 TPY

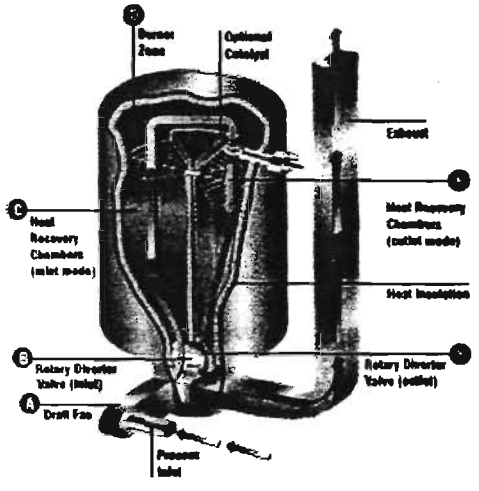
XI. VOC LIMTATIONS AT OTHER FACILTIES

Following is a tabulation of some recent VOC emission limitations for new cement kiln projects. The approximate value determined by the U.S. Environmental Protection Agency (EPA) as MACT for kilns at greenfield sites is included for comparison. There is no MACT requirement for new kilns or existing kilns at brownfield sites.

PLANT	YEAR	PSD?	VOC (lb/ton)	TECHNOLOGY
Rinker (Revision)	2001	Y	0.12	Process/Raw Materials
Rinker Modernization	1997	N	0.10	Process/Combustion
Fla. Rock Newberry	1996	Y	0.12	Process/Combustion
FCS Brooksville	1995/97	Y	0.085	Process/Combustion
Holnam Midlothian	1997	N	0.70	Process/Combustion
TXI Midlothian	1998	N	0.026	Regen Thermal Oxidation
Tarmac Miami	2000	N	0.19	Process/Combustion
Holnam Holly Hill	2000	Y	0.27	Process/Raw Materials
Suwannee American	2000	Y	0.12	Process/Combustion
St. Lawrence Cement	2001 (draft)	LAER	0.11	Process/Raw Materials
Rio Grande	2000	Y	0.05	Process/Combustion
All Greenfield Plants	Future	MACT	~0.3	Process/Raw Materials

TXI proposed a sophisticated regenerative thermal oxidation (RTO) system that cost about $17,500,000 (installed) and was able to net out of PSD for VOC and CO. In addition to the cost, additional NO_X results from burning natural gas in the RTO.[1] Eleven RTO modules of the type shown below were installed and cover an area approximately the "size of a football field."





the injection point, and the difficulties in producing the homogeneous kiln feed needed for high quality clinker.[6]

Without judicious selection of raw materials, emissions from kilns such as Rinker and Florida Rock can easily be on the order of 0.2 lb/ton. Both Rinker and Florida Rock have implemented programs to insure VOC content is minimized in the incoming raw materials in addition to having very effective pyroprocessing systems to burn out VOC emanating from the kilns.

By comparison with recent BACT determinations (including a draft LAER determination) with other kilns around the country, the Rinker and Florida Rock kilns have low VOC emissions. The Department believes that 0.12 lb/ton of clinker is the proper limit for the Rinker kiln and that this limit can be met through proper combustion controls and raw materials selection, without the need for additional control devices or direct firing of the additives.

To insure continuous compliance with the VOC emissions limit, the Department will require a continuous emissions monitoring system (CEMS) such as was installed at Florida Rock. Until the CEMS is installed, the Department will require quarterly stack testing and testing of hydrocarbon content in the incoming raw materials.

XIII. OTHER ISSUES

At this time, Rinker is embarking on a project to construct the bypass to solve a problem caused by the buildup of certain chemical species in recirculating streams within the pyroprocessing system. These constituents tend to deposit on certain surfaces in the pyroprocessing equipment causing lower production and periodic shutdowns. Therefore Rinker is still engaged in solving technical production problems and has not yet constructed the equipment to burn the additional solid waste fuels.

No equipment was installed to burn sewage sludge as permitted by the modernization permit. Rinker advised that it does not actually wish to burn this material. Therefore the condition allowing burning of sewage sludge will be deleted from the permit.

The Title V permit recognizes that Rinker may install the mechanisms to introduce and burn tires and tire derived fuel. The project will need to be completed by March 31, 2002 as indicated in the previously issued Title V Operation permit, otherwise, a new air construction permit will be required. Similarly equipment to burn the following non-hazardous wastes has not yet been installed:

- Oil filters, booms and rags from spill clean up, generated on site to be used as supplemental fuel not as a start-up fuel.
- Unused diapers, papers products, and non-chlorinated plastic waste to be used as supplemental fuel not as startup fuel.

XIV. PERMIT MODIFICATION

The Department intends to modify the permit as shown in the enclosed draft letter. The permit will be extended to March 31, 2002 for the purpose of installing the bypass, the VOC CEMS, and any additional equipment to burn the specified non-hazardous waste fuels.

References

[1] Memorandum from Greer, W.L., Trinity Consultants, Inc., Olathe, KS, to Linero, A.A., Florida DEP. *Re: Draft AWMA Paper.* February 9, 2001.

[2] Kupper, D. "Trends on Desulfurization and Denitrification Techniques in the Cement Industry," in *Proceedings of the 34th IEEE Cement Industry Technical Conference*. 1992. Dallas, TX.

[3] de Quervain, B., Ph.D., "Umweltfreundliche Klarschlammverbrunnung am Beispiel des PCW Portand-Cement-Werks," *GWA des Schweizerichen Vereins des Gas und Wasserfaches,* 1992, Sonderdruck No. 1258.

[4] Letter from Fred Cohrs, Florida Rock Industries, to Kirby Green, Florida DEP, re: VOC Emissions Testing, dated September 25, 2000.

[5] Terry, Mark S. "BACT: What is available with Today's Technology," *Krupp Polysius Technical Seminar*. 1999.

[6] Reference Document, "Best Available Techniques" for the Cement Industry," CEMBUREAU (The European Cement Association). December, 1999.

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

March 1, 2002

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Ed Allsopp
Vice President of Cement Operations
Rinker Materials Corporation
1200 Northwest 137th Avenue
Miami, Florida 33182

Re: DEP File No. 0250014-008-AC (PSD-FL-324)
Rinker Miami Cement Plant – VOC BACT Determination

Dear Mr. Allsopp:

This is pursuant to: your air construction permit extension request dated September 7, 2000; additional requests consolidated in the letter from Koogler and Associates dated June 14, 2001; letters received from Oertel, Hoffman, Fernandez, and Cole, P.A. dated October 5 and 22, 2001, seeking time extensions for taking action on the mentioned requests; and your air construction permit application for modification received by the Department on November 19, 2001.

The Department hereby modifies the original air construction permit issued for the modernization project (September, 1997) as described below. Details of the rationale for the following changes are given in the Department's Technical Evaluation and Preliminary Determination dated December 14, 2001, as well as the enclosed final determination accompanying this letter. This action satisfies and concludes the original permit extension request from September 2000 (DEP File No. 0250014-007-AC) as well as the air construction permit application for modification from November 2001 (DEP File No. 0250014-008-AC).

EXPIRATION DATE

The expiration date is hereby extended until March 31, 2002. All physical construction required to make cement and to conduct initial testing is complete. This permit modification authorizes work addressed in the Compliance Plan of Rinker's Title V Operating Permit and further work only for the purpose of installing the bypass, a continuous emission monitoring system (CEMS) for total hydrocarbons (THC), and additional equipment to burn tires, tire-derived fuel, and the specified non-hazardous waste fuels (other than sewage sludge).

Additional work beyond March 31, 2002, on the projects described above (other than installation of the THC monitor) shall require submittal of an air construction permit application to the Miami-Dade County Department of Environmental Resources Management (DERM).

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

SUBSECTION A. COMMON CONDITIONS

EMISSION UNITS

This cement plant is subject to the applicable requirements of the New Source Performance Standards (NSPS) and the National Emissions Standards for Hazardous Air Pollutants (NESHAP), adopted by reference in Rules 62-204.800(7) and (10), F.A.C., including:

- 40 CFR 60 Subpart F, Standards of Performance for Portland Cement Plants.
- 40 CFR 60, Subpart Y, Standards of Performance for Coal Preparation Plants
- 40 CFR 60, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants
- 40 CFR 60, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23,1984
- ~~40 CFR 60, Subpart Eb, Standards of Performance for Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994. (Co-fired combustor reporting requirements only)~~
- 40 CFR 63, Subpart B, Requirements for Control Technology Determinations for Major Sources in Accordance with Clean Air Act Sections 112 (g) and 112 (j).

{Permitting note: This cement plant is not subject to 40 CFR 60, Subpart Eb, Standards of Performance for Municipal Waste Combustors (MWC) for Which Construction is Commenced After September 20, 1994. Cement kilns were explicitly excluded from the NSPS as amended at 62 FR 45115, August 25, 1997 pursuant to court order [*Davis County Solid Waste Management and Recovery District* v. *EPA*, 101 F.3d 1395 (D.C. Cir. 1996), *as amended*, 108 F.3d 1454 (D.C. Cir. 1997)] and in response to industry submitted information showing that cement kilns burn less than 11 tons per day municipal solid waste.}

SUBSECTION B. SPECIFIC CONDITIONS

EMISSION LIMITATIONS

B.1 The maximum allowable emission rates for the kiln, clinker cooler, raw mill, and preheater/precalciner shall not exceed the limits listed in Revised Table 1-2, Air Pollutant Standards and Terms (attached). **[Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]**

OPERATIONAL LIMITATIONS

B.5 **Fuel Combustion**

(1) Fuels fired in the pyroprocessing system (kiln and precalciner) shall not exceed a total heat input rate of 437 MMBtu/hr and shall consist only of:

a. Bituminous coal, natural gas, petroleum coke, propane, No. 2 fuel oil, residual fuel oil, on-specification and off-specification used oil.

b. Whole tires and tire derived fuel (up to 40% total heat input) may be used as a supplemental fuel, but not as a start-up fuel.

c. Combustion of non-hazardous solid waste, oil filters, booms and rags from spill clean up, generated on site. This non-hazardous solid waste material shall be used as supplemental fuel not as a start-up fuel.

d. Combustion of non-hazardous solid waste (up to ~~30%~~10% of total heat input) may be used as supplemental fuel: unused diapers, papers products, non-chlorinated plastic waste~~, sewage sludge from publicly owned treatment works (POTW)~~. This non-hazardous solid waste material shall ~~be~~ not be used as a start-up fuel.

e. The combined percent heat input from tires, tire-derived fuel and solid waste shall not exceed 40 percent of the total heat input from all fuels on a 24-hour basis.

CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS)

B.10 By June 30, 2002, permittee shall install, calibrate, maintain and operate a CEMS in the kiln/raw mill/cooler stack to measure and record the emissions of total hydrocarbons (THC) from the kiln/raw mill/cooler. Fuel used for the flame ionization process shall consist of a hydrogen/helium mix specified by the CEMS manufacturer. The CEMS shall be installed, certified, operated and maintained in accordance with 40 CFR 60, Appendix B, Performance Specification 8A. The CEMS shall be used in conjunction with

a flow rate sensor certified in accordance with 40 CFR 60, Appendix B, Performance Specification 6. The CEMS data shall be quality assured using the procedures of Appendix F of 40 CFR 60.

Every day, the 24-hour average (daily average) THC emission rate for the previous day shall be calculated and recorded. Emissions shall be calculated in units of pounds per hour (propane equivalence) and pounds per ton of clinker (propane equivalence). Daily averages are to be calculated as the arithmetic mean of each monitored operating hour.

Every day, the 30-day rolling average THC emission rate for the previous 30 operating days shall be calculated and recorded. Emissions shall be calculated in units of pounds per hour (propane equivalence) and pounds per ton of clinker (propane equivalence). The 30-day rolling averages are to be calculated as the sum of the THC emission rates for all monitored operating hours divided by the number of monitored operating hours, both taken over the previous 30 operating days.

A monitored operating hour is each hour in which fuel is fired in the unit and at least two emission measurements are recorded at least 15 minutes apart. Data taken during periods of startup, or when fuel is not fired to the unit, or when the CEMS is not calibrated shall be excluded from the averages. Data recorded during periods of shutdown, malfunction, load change, and continuous operating periods shall be included in the averages.

To the extent the monitoring system is available to record emissions data, the CEMS shall be operated and shall record data at all operating hours when fuel is fired in the unit, including periods of startup, shutdown, load change, continuous operation, and malfunction. Monitor downtimes shall be reported on a quarterly basis using the SUMMARY REPORT in 40 CFR 60.7. A listing of monitor downtime occurrences shall accompany the SUMMARY REPORT if the monitoring system downtime is 5% or greater of the total monitored operating hours.

The permittee shall document the corrective actions taken (such as adjusting combustion parameters, feed rates, or raw material selection) and notify DERM within 24 hours if (1) the 30-day rolling average THC emission rate exceeds 0.12 pounds per ton of clinker (propane equivalence), or (2) ten consecutive daily average THC emission rates exceed 0.12 pound per ton of clinker (propane equivalence).

{Permitting note: The THC monitor results include methane and other non-VOC constituents. Therefore, the monitor provides reasonable assurance that the VOC standard is being met, but it is not the compliance method for the VOC standard. However, when the Department or DERM has good reason (including but not limited to the criteria specified in the above paragraph) to believe that the VOC emission standard in Revised Table 1-2 is being violated, they have the authority under 62-297.310(7)(b), F.A.C. to require the permittee to conduct compliance tests which identify the nature and quantity of VOC emissions from the kiln.}

The permittee shall report to DERM no later than the 15th day following each calendar quarter a summary of the daily average and 30-day rolling average THC emission rates for each day of that calendar quarter. These results should be reported as pounds per hour (propane equivalence) and pounds per ton of clinker (propane equivalence). **[Rule 62-4.070 and 62-297.310, F.A.C.]**

~~A continuous emissions monitoring system (CEMS) shall be installed, calibrated, maintained, operated, and used to determine compliance with the emissions limits for NO_x and SO_2 in Table 1-2. CEMS shall be installed and certified, before the initial performance test, and operated in compliance with 40 CFR 60, Appendix F, Quality Assurance Procedures (1996 version) or other Department-approved QA plan; 40 CFR 60, Appendix B, Performance Specification 1, 2, and 3 (1996 version).~~
~~[Rules 62-4.070 (3) and 62-204.800, F.A.C.]~~

B.11 A continuous emissions monitoring system (CEMS) shall be installed, calibrated, maintained, operated, and used to determine compliance with the emissions limits for NO_x and SO_2 in Revised Table 1-2. CEMS shall be installed and certified, before the initial performance test, and operated in compliance with 40 CFR 60, Appendix F, Quality Assurance Procedures (1996 version) or other Department-approved QA plan; 40 CFR 60, Appendix B, Performance Specification 1, 2, and 3 (1996 version).

The CEMS shall calculate and record emission rates in units of pounds of NO_X and SO_2 per hour. Clinker production rates shall be recorded daily. The permittee may establish a relationship between material feed rates and production rates of clinker if material feed rates are measured more accurately than clinker production rates and the relationship is accurate within 10%.

Every day, the 24-hour average NO_X and SO_2 emission rate for the previous day shall be calculated. Emissions shall be calculated in units of pounds per hour and pounds per ton of clinker. Daily averages are to be calculated as the arithmetic mean of each monitored operating hour. A monitored operating hour is each hour in which fuel is fired in the unit and at least two emission measurements are recorded at least 15 minutes apart. Data taken during periods of startup, or when fuel is not fired to the unit, or when the CEMS is not calibrated shall be excluded from the daily average.

For compliance with the emission limits in Table 1-2, the daily average shall not include data from periods of startup when no clinker is being produced. However, emissions during startup periods shall not exceed the pound per hour limits in Table 1-2. Data recorded during periods of shutdown, malfunction, load change, and continuous operating periods shall be included in the daily average.

To the extent the monitoring system is available to record emissions data, the CEMS shall be operated and shall record data at all operating hours when fuel is fired in the unit, including periods of startup, shutdown, load change, continuous operation and malfunction.

Monitor downtimes and excess emissions based on daily averages, which include startup emissions, shall be reported on a quarterly basis using the SUMMARY REPORT in 40 CFR 60.7. A detailed report of the cause, duration, magnitude, and corrective action taken or preventative measures adopted for each excess emission occurrence, and a listing of monitor downtime occurrences shall accompany the SUMMARY REPORT when the total duration of excess emissions is 1% or greater or if the monitoring system downtime is 5% or greater of the total monitored operating hours.

Mass emission rates (lb/hr, and lb/ton clinker) shall be calculated based on source specific and fuel specific F factors calculated using 40 CFR 60 Appendix A, Method 19. These F factors shall be recalculated when fuel properties vary significantly from those used in the previously calculated F factors but not less than once per year. **[Rules 62-4.070 (3) and 62-204.800, F.A.C.]**

B.13 For emissions other than NO_X and SO_2, compliance with the allowable emission limiting standards listed in Revised Table 1-2 shall be determined by using the following reference methods as described in 40 CFR 60, Appendix A (1996, version) and 40 CFR 61 Appendix B (1996, version) adopted by reference in Chapter 62-204, F.A.C.

Method 5	Determination of Particulate Matter Emissions from Stationary Sources (I) and (A).
Method 8	Determination of Sulfuric Acid Mist from Stationary Sources (I).
Method 9	Visual Determination of the Opacity of Emissions from Stationary Sources (I) and (A).
Method 10	Determination of Carbon Monoxide Emissions from Stationary Sources (I) and (A).
~~**Method 25**~~	~~Determination of Volatile Organic Compound Emissions from Stationary Sources (I) and (A).~~
Method 18	Measurement of Gaseous Organic Compound Emissions by Gas Chromatography -- to be performed concurrently with Method 25A at the permittee's option to correct the Method 25A results for the presence of methane.
Method 25A	Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer -- to be performed initially, quarterly from first quarter 2002 until the THC monitor is installed and certified, and annually thereafter. Method 25A results may be corrected for methane emissions at the permittee's option through a concurrently conducted Method 18 determination or through another method approved by DERM. If a concurrent demonstration of methane emissions is not performed, then the results of the Method 25A determination shall be used to demonstrate compliance with the allowable VOC emission limitation listed in Revised Table 1-2.

Method 29 Determination of Lead~~, Beryllium,~~ and Mercury from Stationary Sources (I).

Prior to installation and certification of the THC monitor, permittee shall determine and record the THC content for each incoming shipment of raw materials through the Department's Method FL-PRO or through some other method approved by DERM. Such records shall be made available to DERM upon request.

Emission testing shall be performed at the kiln/cooler main stack during a period when the kiln precalciner, cooler, raw mill and preheater are operating simultaneously and under normal operating conditions. EPA-reference methods for sampling pollutants shall be as specified in 40 CFR 60, Appendix A. Prior to any emission testing to demonstrate compliance with any emission limit, the permittee shall determine the clinker production rate for the test according to a factor based on the preheater/precalciner feed rate and notify DERM in advance of the commencement of any test(s). That rate of clinker production shall be used to determine compliance with all clinker-based emission limits in the permit for that test.

These emission units shall comply with all applicable requirements of Rule 62-297.310, F.A.C. General Test Requirements and 40 CFR 60.8. Performance Tests. Revised Table 2-1, Compliance Requirements (attached) also lists the EPA methods.

Testing of emissions shall be conducted with the emission unit operating at capacity and under the different permitted fuels scenarios (petroleum coke, coal, on or off specification used oil, TDF, solid waste, etc.) as specified in Specific Condition No.B.5. Fuel Combustion. The permittee shall provide DERM with a *protocol* that will outline the different fuel scenarios (% of total heat input) that this unit will be burning. Rinker shall obtain the test data necessary to determine whether this kiln is capable of accommodating the burning of coal or petroleum coke and all of the other supplemental fuels specified on Specific Condition B.5. Fuel Combustion. The fuel scenarios tested shall represent the actual combustion percentage (% of total heat input) that is going to be maintained while burning supplemental fuels during normal operation. The frequency of testing shall be determined by DERM.

Permitted capacity is defined as 90-100% of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then the unit may be tested at less than 90% of the maximum operating rate allowed by the permit; in this case, subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen consecutive days for the purpose of additional compliance testing to regain the permitted capacity in the permit. **[Rules 62-204.800, 62-297.310, 62-297.400, 62-297.401, F.A.C., and 40 CFR 60 Appendix A and 40 CFR 60.8, Subpart A].**

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. The enclosed Best Available Control Technology determination for VOC is hereby made part of the permit file. The Miami-Dade DERM will revise the present Title V Operation Permit as advised in the Notice of Final (Title V) Permit dated October 31, 2000 and to incorporate additional changes resulting from this permitting action.

Any party to this permitting decision (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.

Howard L Rhodes

Howard L. Rhodes, Director
Division of Air Resources Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Permit Amendment was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 3/1/02 to the person(s) listed:

Ed Allsopp, VP, Rinker*
Scott Benyon, Rinker
Mike Vardeman, Rinker
Gregg Worley, EPA
John Bunyak, NPS
Isidore Goldman, DEP SED
H. Patrick Wong, Miami-Dade DERM
John Koogler, PhD., P.E., K&A
Jason Hand, Esq., DEP OGC
Segundo J. Fernandez, Esq., OHF&C

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.

Victoria Gibson (Clerk) March 1, 2002 (Date)

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1. Article Addressed to:

Mr. Ed Allsopp
Vice President of Cement Operations
Rinker Materials Corporation
1200 Northwest 137th Avenue
Miami, FL 33182

COMPLETE THIS SECTION ON DELIVERY

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Miami, FL 33182

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Revised Table 1-2. Air Pollutant Standards and Terms

FACILITY ID NUMBER: 0250014

DEP File No. 0250014-008-AC (PSD-FL-324)
Original DEP File No. 0250014-002-AC
Portland Cement Plant and Associated Equipment
Dry Process Technology

Permittee:
Rinker Materials Corporation

Emission Unit - Kiln System
Cement Plant Modernization

E.U. ID#	Description	Pollutant ID	Fuel(s) [2]	Allowable Emissions [3]		Equivalent Emissions [4]	Basis
				Permit Limits	lb/hr	TPY	
ARMS #	Kiln/Cooler/Raw Mill	PM	coal/gas/WTDF/oil	0.20 lb/ton kiln $_{ph}$ feed *	44	193	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	PM_{10}	coal/gas/WTDF/oil	0.17 lb/ton kiln $_{ph}$ feed *	37.40	164	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	SO_2	coal/gas/WTDF/oil	~~0.7 lb/MMBTU~~ **2.23 lb/ton of clinker**	306	1340	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	NO_x	coal/gas/WTDF/oil	~~1.53 lb/MMBTU~~ **4.9 lb/ton of clinker**	671	2940	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	CO	coal/gas/WTDF/oil	3.01 lb/ton clinker	412	1807	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	VOC	coal/gas/WTDF/oil	~~0.1 lb/ton clinker~~ **0.12 lb/ton clinker**	~~13.7~~ **16.4**	~~60~~ **72**	~~RMC - Data~~ **BACT**
ARMS #	Kiln/Cooler/Raw Mill	H_2SO_{4mist}	coal/gas/WTDF/oil	0.014 lb/ton clinker	1.92	8.4	AP - 42
~~ARMS #~~	~~Kiln/Cooler/Raw Mill~~	~~Beryllium~~	~~coal/gas/WTDF/oil~~	~~$6.6x10^{-7}$ lb/ton clinker~~	~~9.04E-05~~	~~0.000396~~	~~AP - 42~~
ARMS #	Kiln/Cooler/Raw Mill	Mercury	coal/gas/WTDF/oil	$2.4x10^{-5}$ lb/ton clinker	3.30E-03	0.014	AP - 42
ARMS #	Kiln/Cooler/Raw Mill	Lead	coal/gas/WTDF/oil	$7.5x10^{-5}$ lb/ton clinker	0.01	0.045	AP - 42
ARMS #	Kiln/Cooler/Raw Mill	VE	coal/gas/WTDF/oil	10% opacity			NSPS

ALLOWABLE OPERATING RATES

		Kiln/Cooler/Raw Mill
Hours of operation per year	Hours	8760
Kiln preheater feed rate (kiln $_{ph}$) *	TPH	220
Kiln Heat Input	MMBtu/hr	437
Clinker Production [1]	TPH	137
Cooler throughput rate	TPH	137

NOTES

[1] At a maximum design clinker production rate of 137 TPH and preheater feed rate of 220 TPH, utilizing a conversion factor of 0.60: (220 x 0.60 = 137).
[2] Fuel combustion as specified in Specific Condition No. B.5, and the protocols established by DERM. See also Specific Condition B.13.
[3] Compliance Units. This facility shall demonstrate compliance based on these standards.
[4] "Equivalent Emissions" are based on annual emissions at 8760 hrs/yr. The "Equivalent Emissions" are also listed for informational purpose and for PSD and recordkeeping tracking purposes.

Revised Table 2-1. Compliance Requirements

FACILITY ID NUMBER: 0250014

Original DEP File No. 0250014-002-AC
Permit Modification No. 0250014-008-AC

Permittee:
Rinker Materials Corporation
Portland Cement Plant No. 2 and Associated Equipment

E.U. ID#	Description	Pollutant Name or Parameter	Fuel(s) [1]	EPA/Reference Method/CMS *	Testing Time Frequency	Min. Compliance Test Duration	CMS * Compliance
ARMS #	Kiln/Cooler/Raw Mill	PM/PM_{10}	Oil/Coal /Gas/WTDF	5 or 201 / 201A	initial/annual [8]	3 one-hr run	
ARMS #	Kiln/Cooler/Raw Mill	VE	Oil/Coal/Gas/WTDF	9 / COMS	initial/annual/COMS	3 one-hr run	No [4]
ARMS #	Kiln/Cooler/Raw Mill	SO_2	Oil/Coal/Gas/WTDF	CEMS	daily average	continuous	Yes [6]
ARMS #	Kiln/Cooler/Raw Mill	NO_X	Oil/Coal/Gas/WTDF	CEMS	daily average	continuous	Yes [3]
ARMS #	Kiln/Cooler/Raw Mill	CO	Oil/Coal/Gas/WTDF	10 [5]	initial/annual	3 one-hr run	
ARMS #	Kiln/Cooler/Raw Mill	VOC	Oil/Coal/Gas/WTDF	~~25 or~~ 25A [2]	Initial/annual	3 one-hr run	~~Yes~~ No[2]
ARMS #	Kiln/Cooler/Raw Mill	$H_2SO_{4\ mist}$	Oil/Coal/Gas/WTDF	8	initial	3 one-hr run	
ARMS #	Kiln/Cooler/Raw Mill	Hg, Pb~~, Be~~	Oil/Coal/Gas/WTDF	29	initial	3 one-hr run	
ARMS #	Fugitive sources	VE		9	Protocol [7]		
ARMS #	Minor Sources	VE		9	initial/annual	3 one-hr run	

[1] Initial compliance testing shall be conducted under all the scenarios this facility is planning to operate under. Specific condition B.13. Annual testing of emissions shall be conducted during the worst case scenario that this facility would normally operate under. Frequency of testing after initial compliance shall be determined by the Miami-Dade County Department of Environmental Resources Management (DERM). Fuels to be burned are specified in Specific Condition B.5.

[2] To comply with the condition of this permit, VOC emissions shall be tested initially, quarterly beginning with the first quarter of 2002 (by March 31, 2002) until the total hydrocarbon (THC) monitor is installed and certified, and annually thereafter. ~~to comply with the condition of this permit. Thereafter, compliance will be assumed provided the CO allowable emission rate is reached.~~ At Rinker's option, Method 25A can be corrected for methane through a concurrently conducted Method 18 determination or through another method approved by DERM. If a concurrent demonstration of methane is not performed, then the results of the Method 25A determination shall be used to demonstrate compliance with the VOC emission limit. In other words, Rinker has the option of using Method 25A alone if they stipulate that all of the THC is VOC.

[3] NO_X - The continuous emission monitoring system (CEMS) data shall be used for the kiln/cooler/raw mill for compliance requirement. The CEMS calibration and maintenance shall meet the applicable requirements of 40 CFR 60, Appendix B and Appendix F.

[4] Pursuant to 40 CFR 60, Subpart F, the kiln/cooler/raw mill exhaust system shall be equipped with continuous opacity monitoring system (COMS) to record the opacity at the stack to indicate proper maintenance and operation. Monitoring of the opacity of emissions shall be demonstrated by COMS pursuant to 40 CFR 60.63. Notification and recordkeeping shall be in accordance with 40 CFR 60.7 and 40 CFR 60.65.

[5] Continuous process monitors for CO and/or O2 to optimize combustion conditions for pollution control shall be part of the process.

[6] SO2 - The continuous emission monitoring (CEMS) data shall be used for the kiln/cooler/raw mill compliance requirement. The CEMS calibration and maintenance shall meet the applicable requirements of 40 CFR 60, Appendix B and Appendix F.

[7] Protocol as approved by the Permitting Authority (DERM).

[8] Rinker has the option of using Method 5 if they stipulate that all of the PM is PM10.

* CMS [=] compliance demonstrated by a continuous monitoring system: CEMS or COMS.

FINAL DETERMINATION
File Nos. 0250014-007 & 008-AC (PSD-FL-324)
Rinker Miami Cement Plant

The Department distributed an "Intent to Issue Permit" package on December 14, 2001. The applicant published the "Public Notice of Intent to Issue" in the Miami Daily Review on December 27, 2001. The Department received the proof of publication on January 3, 2002. The applicant has requested an extension of the deadline for filing a petition for an administrative hearing until February 28, 2002.

No comments on the draft permit modification were received from the public or the National Park Service. The FDEP received comments from the applicant, from the U.S. Environmental Protection Agency (EPA) Region 4, and from the Miami-Dade County Department of Environmental Regulation Management (DERM). The following section summarizes the Department's response to the comments and resulting revisions.

COMMENTS/CHANGES

Comments regarding the THC monitor: The EPA supported requiring the THC monitor for purposes of compliance, noting that a monitor is the only practical way of determining compliance with an emission limit that is expressed over a 30-day averaging time. The applicant, however, pointed out that CEMS are not available for non-methane THC and argued that the THC results from the monitor (which include methane) should not be compared directly to the VOC emission limit (because methane is not a VOC). The applicant suggested that the monitor be used for purposes of reasonable assurance, but not for compliance. The DERM suggested using either approach (i.e., compliance or reasonable assurance), but requested an annual Relative Accuracy Test Audit (RATA) for the monitor -- along with an annual VOC compliance test -- if the monitor is required only for purposes of reasonable assurance.

Response: The final permit clarifies that an annual Method 25A test is the compliance method for the VOC emission limit. The permit does, however, specify the calculation and recording of daily average THC emissions and 30-day rolling average THC emissions. Corrective action and DERM notification are required if (1) the 30-day rolling average THC emission rate exceeds 0.12 lb/ton of clinker, or (2) the daily average exceeds 0.12 lb/ton of clinker for 10 consecutive days. When the Department or DERM has good reason (including but not limited to these two criteria) to believe that the VOC emission standard for the kiln is being violated, it has the authority under 62-297.310(7)(b), Florida Administrative Code (F.A.C.), to require the owner or operator to conduct compliance tests which identify the nature and quantity of VOC emissions.

The permit requires that the CEMS be installed, certified, operated and maintained in accordance with 40 CFR part 60, appendix B, performance specification 8A (PS-8A); it also requires CEMS data to be quality assured using the procedures of 40 CFR part 60, appendix F. Appendix F specifies that a "RATA must be conducted at least once every four calendar quarters," and PS-8A provides a specific alternative procedure to use in lieu of a RATA for THC CEMS. For brevity, the conditions and requirements of Appendix F and PS-8A are not included in the construction

permit modification. The specific conditions could be explicitly included in the operating permit for clarity and completeness.

The FDEP believes that the THC CEMS, notification requirements, performance specifications, and compliance testing provisions in the final permit provide reasonable assurance that the VOC emission limit is being met.

Comments regarding the 30-day rolling average: Both EPA and DERM suggested that the permit explicitly detail the calculation method for determining the 30-day rolling average THC emission rate. Both commenters recommended that the 30-day rolling average be calculated as the sum of all the valid hourly THC emission rates over the previous 30 operating days divided by the total number of valid operating hours.

Response: The FDEP concurs with these comments and has incorporated the calculation procedure into the final permit.

Comments regarding quarterly testing requirement: Both DERM and the applicant noted that, because of the timing of the final permit, the requirement to conduct a compliance test in the fourth quarter of 2001 should be removed.

Response: The FDEP concurs, and has added language specifying that compliance testing shall be conducted initially, quarterly until the THC monitor is installed and certified, and annually thereafter.

CONCLUSION

The above minor revisions were made. Table 2-1 was updated to reflect the minor revisions, and typographical errors were corrected. The BACT determination was finalized and is enclosed. The final action of the Department is to issue the permit with the changes described above.

BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION

RINKER MATERIALS CORPORATION
MIAMI, DADE COUNTY, FLORIDA

Portland Cement Manufacturing Facility

VOC BACT Determination

DEP File No. 0250014-008-AC
PSD-FL-324

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

March 1, 2002

I. APPLICANT NAME AND ADDRESS

Rinker Materials Corporation
1200 NW 137th Avenue
Miami, Florida 33182

II. FACILITY INFORMATION

A. FACILITY LOCATION

Rinker Materials Corporation (Rinker) recently modernized the existing Miami Cement Plant by replacing the wet process cement plant with a 1.2 million tons per year (TPY) clinker dry-process cement production line [137 tons of clinker per hour (TPH)].

This site is approximately 8.2 kilometers to the Everglades National Park, a Class I Prevention of Significant Deterioration (PSD) Area, and in an ozone (O_3) maintenance area in Dade County.

B. FACILITY CLASSIFICATION CODE (SIC)

Major Group No. 32, Clay, Glass, and Concrete Products
Industry Group No. 324, Cement, Hydraulic
Industry No. 3241, Cement, Hydraulic

C. FACILITY CATEGORY

The Rinker Miami Cement Plant directly emits more than 100 TPY of several regulated air pollutants and emits over 10 TPY of at least one hazardous air pollutant (HAP). Therefore it is classified as a "Major Source of Air Pollution or Title V Source," per the definitions in Rule 62-212.200, Florida Administrative Code (F.A.C.).

This industry is listed in Table 212.400-1, "Major Facilities Categories", Rule 62-212.400, F.A.C. Therefore, stack and fugitive emissions of over 100 TPY of carbon monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO_2), nitrogen oxides (NO_X), or particulate matter (PM/PM_{10}) characterize the existing installation as a Major Facility per the definitions in Rule 62-210.200, F.A.C. and subject to applicability review for the requirements of PSD per Rule 62-212.400, F.A.C.

Per Table 212.400-2, "Regulated Air Pollutants – Significant Emission Rates", modifications at the facility resulting in emissions increases greater than 40 TPY of NO_X or SO_2, 7 TPY of sulfuric acid mist (SAM), 25/15 TPY of PM/PM_{10}, 3 TPY of fluorides, 1200 pounds per year (lb/yr) of lead or 200 lb/yr of mercury require review per the PSD rules and a determination for Best Available Control Technology (BACT) per Rule 62-212.400, F.A.C.

The approved Rinker modernization project was not subject to New Source Review including the PSD provisions because the modernized plant was expected to result in less overall air pollution than the existing plant. This is primarily due to the lower fuel requirements per unit of product characteristic of the dry processes.

III. MODERNIZATION PROJECT

The Department issued a permit to Rinker on September 11, 1997 to modify the existing wet process plant by incorporating the modern dry process technology including a preheater and precalciner along with indirect firing. The dry process preheater/precalciner (PH/PC) kiln is the most fuel-efficient cement pyroprocessing technology currently available. Thermal efficiencies will be improved with the PH/PC kiln and the amount of fuel combusted per ton of clinker produced is expected to be reduced

The modernized cement plant will produce up to 137 TPH of clinker (highest maintained rate over a day). The annual potential production rate will not exceed 1.2 million TPY of clinker. The major equipment will include a PH/PC kiln, a clinker cooler, raw mill, finish mill, silos, conveyers, and particulate control/dust collection and recycling equipment. The cement product will be stored in silos and shipped in bags or in bulk by rail or truck.

A more complete project and process description was provided in the Technical Evaluation and Preliminary Determination issued for the modernization project on June 23, 1997. Rinker completed basic construction of the dry process kiln line in Spring of 2000. Compliance tests were conducted during the second half of the year. Following is a photograph of the constructed dry process plant taken in late June 2001.

Rinker Modernized Dry Process Cement Plant in Miami, Florida

IV. VOC BACT DETERMINATION REQUEST

On November 19, 2001, Rinker submitted a request that the Department perform a determination of BACT pursuant to the PSD rules (62-212.400, F.A.C.). The main reason for Rinker's request is that the VOC limit accepted by the company to avoid PSD during the modernization project is very difficult to meet for reasons that are discussed below.

V. PRESENT SITUATION

As of this time, all physical construction required to make cement at or near the permitted production limit is complete. A Title V Operation Permit with a Compliance Plan was issued in October 2000. Compliance testing has been conducted. Following are the results of tests for VOC.

Pollutant	Permit Limit	Result
VOC	0.1 lb/ton clinker	0.1 lb/ton clinker

The emissions of VOC are at the allowable limit based on lb/ton of clinker produced. However annual emissions are still less than the value that would have triggered PSD. The modernization permit required only an initial test for VOC and relied upon carbon monoxide testing as a surrogate for VOC.

VI. BACKGROUND ON VOC ISSUE

The following table is from the Technical Evaluation and Preliminary Determination in support of the modernization permit issued in 1997. The permit allowed an increase of only 32.9 TPY, of which 20.5 TPY were consumed by a contemporaneous soil remediation thermal unit project.

CONTEMPORANEOUS CREDITABLE CHANGES (TPY)*

Pollutants	Modernization Project	(+) Increases (Contemporaneous)	(-) Decreases (Shutdowns)	= Total	PSD Significance
VOC	60	20.5	47.6	32.9	40

* Sum of Contemporaneous Creditable Changes (TPY) detailed in Rinker's letter dated April 16, 1997.

As a result, an increase in kiln emissions from 47.6 actual TPY to 60 potential TPY was allowed despite a near doubling in cement output. Emissions of VOC from raw materials in the old wet process were masked by the fact that raw materials are slurried and then dried, calcined, and converted to clinker within the kiln. It was apparently believed that VOC would be evolved in the kiln and would be destroyed in the calciner that would act somewhat as an afterburner.

A similar assumption was made for the new preheater calciner kiln constructed by Florida Rock in Newberry, Florida. In that case, a BACT limit for VOC was set at 0.12 lb/ton of clinker. The company initially failed to achieve the permitted limit and was able to do so after an extensive program to diagnose the causes and potential remedies. Testing at Rinker was scheduled after the testing at Florida Rock and Rinker (with difficulty) met its more stringent limit of 0.1 lb/ton of clinker.

The Department would have issued a higher BACT limit than the limit necessary to avoid PSD if the request had been made at that time. It is noted that the modernization permit required only the initial test for VOC and that the Title V Operation specifies no further testing permit. Nevertheless, Rinker has requested both a new limit and permanent testing and monitoring requirements to be incorporated into the Title V Operation Permit.

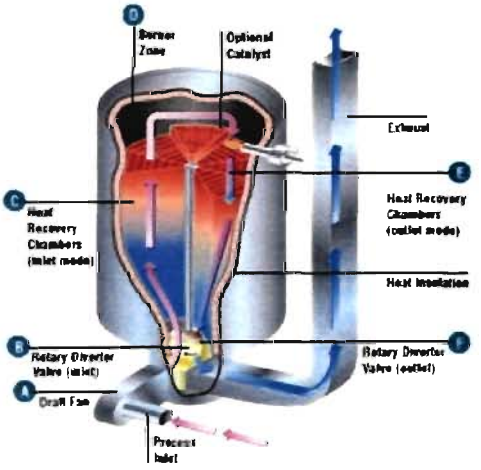
Rinker's request to increase the emission rate to 0.12 (matching the Florida Rock limitation) will result in annual VOC emissions of approximately 72 TPY. This would trigger PSD per the above table because emissions increases including contemporaneous increases and decreases would be approximately 45 TPY versus the PSD threshold of 40 TPY

VII. VOC LIMTATIONS AT OTHER FACILTIES

Following is a tabulation of some recent VOC emission limitations for new cement kiln projects. The approximate value determined by the U.S. Environmental Protection Agency (EPA) as Maximum Achievable Control Technology (MACT) for kilns at greenfield sites is included for comparison. There is no MACT requirement for new kilns or existing kilns at brownfield sites.

PLANT	YEAR	PSD?	VOC (lb/ton)	TECHNOLOGY
Rinker (Revision)	2001	Y	0.12	Process/Raw Materials
Rinker Modernization	1997	N	0.10	Process/Combustion
Fla. Rock Newberry	1996	Y	0.12	Process/Combustion
FCS Brooksville	1995/97	Y	0.085	Process/Combustion
Holnam Midlothian	1997	N	0.70	Process/Combustion
TXI Midlothian	1998	N	0.026	Regen Thermal Oxidation
Tarmac Miami	2000	N	0.19	Process/Combustion
Holnam Holly Hill	2000	Y	0.27	Process/Raw Materials
Suwannee American	2000	Y	0.12	Process/Combustion
St. Lawrence Cement	2001 (draft)	LAER	0.11	Process/Raw Materials
Rio Grande	2000	Y	0.05	Process/Combustion
All Greenfield Plants	Future	MACT	~0.3	Process/Raw Materials

TXI proposed a sophisticated regenerative thermal oxidation (RTO) system that cost about $17,500,000 (installed) and was able to net out of PSD for VOC and CO. In addition to the cost, additional NO_X results from burning natural gas in the RTO.[1] Eleven RTO modules of the type shown below were installed and cover an area approximately the "size of a football field."



A Top/Down BACT determination might not have required such a system at the TXI Midlothian site. However the company wanted to avoid protracted delays in their expansion that were likely if they tried to obtain a PSD permit with a BACT determination in Texas for their modernization/expansion project. No subsequent projects have required RTO systems as BACT or LAER.

Colorado specified an annual limit, based on a rolling 12-month total, for the Rio Grande Portland Cement plant outside Pueblo, Colorado. This annual limit is equivalent to about 0.05 lb VOC per ton of clinker. After the initial source compliance testing, however, the Rio Grande permit does not provide for additional VOC measurements, other than general language reserving the right to require testing of any emission source as requested by the State.

A special situation (not listed in the above table) caused Holnam to install an RTO for the purpose of VOC/odor control to abate problems associated with high levels of naturally occurring kerogens in the raw materials available for its plant in Michigan. VOC emissions from that plant were estimated in the "thousands of TPY" versus the 72 TPY foreseen for the Rinker plant.

An alternative to RTO is a carbon filter such as included in the Polysius Environmental Technology (POLVITEC).[2] Such a system was installed at the HCB Siggenthal Plant in Switzerland for multi-pollutant control from dried sewage sludge combustion.[3] The project was feasible because the City of Zurich put up a portion of the capital cost of $15 million for the installation and the plant recovers costs by burning a variety of other wastes.

VOC from raw materials can be controlled by judicious selection of the raw materials. Limestone, clay, and sand are the predominant components of the raw material feed stock. Controlling VOC only through careful selection of raw materials is therefore not a viable option if local, in-state sources of these components are high in VOC content.

There are some control options, however, if the primary materials are relatively free of VOC but the additives, such as mill scale, are high in VOC content. One option is to use mill scale that is free of or cleaned of lubricants.[4] Another is grinding and metering additives directly into the kiln.[5] The organic content of the mill scale is driven off in the preheater. By adding the VOC laden material directly into the hot zone of the kiln instead of the preheater system, the VOC are combusted before they can be emitted.[6]

VIII. VOC BACT DETERMINATION

The Department has determined that the top control for VOC is 0.026 lb/ton of clinker to be achieved by RTO or carbon adsorption. Reduction of emissions from 0.12 to 0.026 lb/ton would represent annual emission reductions of about 60 TPY. There is no way it can be cost-effective to accomplish such a small reduction through an RTO system or a carbon adsorption filter on a cement kiln. In any event, the plant is only requesting an increase of some 12 TPY.

In Florida, locally available limestone, sand, and clay typically have a low organic content. Mill scale and other additives can be high in VOC content. Adding the mill scale directly to the kiln is not cost-effective in relation to the increased heat consumption of the kiln, possible build ups at the injection point, and the difficulties in producing the homogeneous kiln feed needed for high quality clinker.[6]

Without judicious selection of raw materials, emissions from kilns such as Rinker and Florida Rock can easily be on the order of 0.2 lb/ton. Both Rinker and Florida Rock have implemented programs to ensure VOC content is minimized in the incoming raw materials in addition to having very effective pyroprocessing systems to burn out VOC emanating from the kilns.

By comparison with recent BACT determinations (including a draft LAER determination) with other kilns around the country, the Rinker and Florida Rock kilns have low VOC emissions. The Department believes that 0.12 lb/ton of clinker is the proper limit for the Rinker kiln and that this limit can be met through proper combustion controls and raw materials selection, without the need for additional control devices or direct firing of the additives.

To provide reasonable assurance that the facility will comply with the VOC emissions limit, the Department will require continuous emissions monitoring system (CEMS) for Total Hydrocarbons (THC) such as was installed at Florida Rock. Until the CEMS is installed, the Department will require quarterly stack testing and testing of hydrocarbon content in the incoming raw materials. After installation of the CEMS, the Department will require annual VOC testing; additional testing may be required by Miami-Dade County following review of the CEMS data. These requirements are established in the permit modification accompanying this BACT determination.

IX. 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:

for C. H. Fancy, P.E., Chief
Bureau of Air Regulation

3/1/2002
Date

Approved By:

Howard L. Rhodes, Director
Division of Air Resources Management

3/1/02
Date

References

1 Memorandum from Greer, W.L., Trinity Consultants, Inc., Olathe, KS, to Linero, A.A., Florida DEP. *Re: Draft AWMA Paper.* February 9, 2001.

2 Kupper, D. "Trends on Desulfurization and Denitrification Techniques in the Cement Industry," in *Proceedings of the 34th IEEE Cement Industry Technical Conference.* 1992. Dallas, TX.

3 de Quervain, B., Ph.D., "Umweltfreundliche Klarschlammverbrunnung am Beispiel des PCW Portand-Cement-Werks," *GWA des Schweizerichen Vereins des Gas und Wasserfaches,* 1992, Sonderdruck No. 1258.

4 Letter from Fred Cohrs, Florida Rock Industries, to Kirby Green, Florida DEP, re: VOC Emissions Testing, dated September 25, 2000.

5 Terry, Mark S. "BACT: What is available with Today's Technology," *Krupp Polysius Technical Seminar.* 1999.

6 Reference Document, "Best Available Techniques" for the Cement Industry," CEMBUREAU (The European Cement Association). December 1999.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

JAN 2 8 2002

4 APT-APB

Mr. C.H. Fancy, P.E.
Florida Department of Environmental Protection
Mail Station 5500
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Fancy:

Thank you for your letter dated December 14, 2001, transmitting a draft prevention of significant deterioration (PSD) construction permit modification (PSD-FL-324) for the Miami Cement Plant owned by CSR Rinker Materials Corporation (Rinker). Our comments on the draft permit modification are as follows:

1. We strongly support the revision to permit condition B.10 which indicates that compliance with the volatile organic compounds (VOC) limits in Table 1-2 will be determined with the continuous emission monitoring systems (CEMS) after June 30, 2002. The permit requires both stack testing and the installation of a CEMS, and due to the 30-day averaging time for the applicable VOC limit, the only practical way to determine compliance is to use the CEMS. The stack testing provision requires that Rinker conduct three one-hour runs using either U.S. Environmental Protection Agency (EPA) Method 25 or 25A, and the CEMS provision requires that Rinker install equipment to measure both stack gas total hydrocarbon (THC) concentrations and stack gas flow rates on a continuous basis. Although EPA Method 25 or 25A can be used to collect the data for a THC monitor relative accuracy test audit, these results cannot be used for determining compliance with the applicable VOC limit since the permit specifies a test duration of only three hours. Because of the 30-day averaging time for the VOC limit, the only practical way of determining compliance is to use the results from the THC and stack flow rates monitors which collect data on a continuous basis.

2. Since compliance with the VOC limit in the permit is determined on a 30-day rolling average basis, we recommend that two issues regarding the calculation of these averages be clarified in the permit.

   a. The first issue that should be addressed is the treatment of days when the kiln is not operating. We recommend that the permit be revised to specify that only kiln operating days be considered when calculating the 30-day rolling average emission rate. The basis for this recommendation is that calculating the 30-day emission rate on a calendar day basis makes complying with the rule more difficult if there is an extended shutdown and there is a spike in emissions on one or more of the days

during which the unit does operate. Calculating the average emission rate using 30 operating days tends to "smooth out" the impact of such spikes because of the amount of data used in the calculation. Calculating the average emission rate using 30 calendar days, however, would tend to magnify the impact of any emission rate spikes since fewer data would be used in the calculation.

b. The second clarification that should be added to the permit regarding the calculation of the 30-day rolling average emission rate involves whether compliance is calculated by adding up 30 daily average emission rates and dividing by 30 or is calculated by summing all of the valid hourly data in the 30-day averaging period and dividing by the number of valid hourly readings. Since these calculation approaches will yield different results, it is important that Rinker and the Florida Department of Environmental Protection have the same understanding regarding how the averages will be calculated. If the averages are calculated using 30 daily emission rate values, days during which the unit operates for as little as an hour would have the same impact on the average as days during which the unit operates for a full 24 hours. Therefore, we recommend that the permit require that the 30-day average emission rate be calculated as the average of all the valid hourly data in each 30-day operating period. This is the same approach used for calculating average sulfur dioxide and nitrogen oxides emission rates under 40 C.F.R. part 60, subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units). We recommend this approach because it results in the average being calculated on an operating hour weighted basis when there are days during the averaging period when the kiln does not run for 24 hours. See 40 C.F.R. § 60.46b(e)(2) for an example of language that describes how to calculate the 30-day rolling average emission rate using the approach recommended for Rinker.

If you have any questions regarding the comments in this letter, please call David McNeal at (404) 562-9102.

Sincerely,

Gregg M. Worley

Gregg M. Worley
Chief
Air Permits Section

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

FACSIMILE TRANSMITTAL SHEET

To	Al Linero - FDEP
Fax Number	(850) 922-6979
From	Jim Little Air Planning Branch, Air Permits Section Phone: (404) 562-9118 Fax: (404) 562-9019 E-mail: little.james@epa.gov
Subject	Rinker Materials - Miami Cement Plant
Date	January 28, 2002
Pages	3 (including this sheet)

We will mail the original letter.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

JAN 2 8 2002

4 APT-APB

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Florida Department of Environmental Protection
Mail Station 5500
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

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during which the unit does operate. Calculating the average emission rate using 30 operating days tends to "smooth out" the impact of such spikes because of the amount of data used in the calculation. Calculating the average emission rate using 30 calendar days, however, would tend to magnify the impact of any emission rate spikes since fewer data would be used in the calculation.

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If you have any questions regarding the comments in this letter, please call David McNeal at (404) 562-9102.

Sincerely,

Gregg M. Worley

Gregg M. Worley
Chief
Air Permits Section

MIAMI-DADE COUNTY, FLORIDA

MIAMI-DADE

DERM

ENVIRONMENTAL RESOURCES MANAGEMENT
AIR QUALITY MANAGEMENT DIVISION
33 S.W. 2nd AVENUE
SUITE 900
MIAMI, FLORIDA 33130-1540
TELEPHONE: (305) 372-6925
FAX: (305) 372-6954

January 24, 2002

CERTIFIED MAIL NO. 7000 0600 0027 7981 6298
RETURN RECEIPT REQUESTED

Department of Environmental Protection
Division of Air Resources Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Attn: Alvaro Linero, P.E.

Re: Comments on DRAFT Air Construction Permit Modification
FDEP File Nos.0250014-007 & 008-AC, PSD-FL-324
Rinker Materials Corporation, Miami Cement Plant, Miami-Dade County

Dear Mr. Linero:

The Miami-Dade Department of Environmental Resources Management (DERM) received the Draft Air Construction Permit Modification issued by DEP on December 14, 2001, for the Rinker Materials Corporation facility in Miami. DERM also received a copy of John Koogler's memo dated December 21, 2001 regarding said permit.

DERM staff discussed some of the terms and conditions of this permit and Mr. Koogler's memo with Alvaro Linero and Gregory De Angelo of DEP. Pursuant to the public notice published on December 27, 2001, and subsequent discussions with DEP staff, our comments for your consideration regarding this draft permit are as follows:

1. As the compliance authority for Miami-Dade County, we concur with DEP that there must be a mechanism specified clearly in the final construction permit to determine compliance with the VOC emissions limit. DERM recommends that DEP specify in the construction permit one of the following methods for compliance determination:
    a. Option 1: CEMS shall be used to determine compliance with the VOC emissions limit of 0.12 lb/ton of clinker, proposed in the construction permit. Rinker would have the option of installing appropriate CEMS to measure non-methane total hydrocarbons (NMTHC). Rinker could choose to install CEMS to measure total hydrocarbons, and in that case, the total hydrocarbons will be considered as all VOCs.

Or

b. Option 2: Rinker would install VOC CEMS for the purpose of reasonable assurance. In that case, the following must be required of Rinker for compliance determination:
    i. A Relative Accuracy Test Audit, RATA, for the VOC CEMS on an annual basis. Stack gas emissions should be used for all RATA certification samples.
    ii. An annual VOC compliance testing requirement to include Method 25 or Method 25A in conjunction with Method 18.

2. In Condition B-10, use the correct abbreviation "NMTHC" instead of "THC" when referencing non-methane total hydrocarbons (NMTHC).

3. Clearly specify the "averaging period" of CEMS for VOC measurements as one (1) hour averages determining the 30-day rolling average in the text of Specific Condition B-10 and in Table 1-2, Air Pollutant Standards and Terms. Explain hourly averaging by specifying the minimum number of hourly data points in Table 2-1, Compliance Requirements. DERM recommends the 30-day averaging be calculated by adding the hourly VOC measurements during a 30-day averaging period and dividing it by the total number of hours operated.

4. Condition B-13 requires Method 25 or Method 25A to determine VOC emissions from Stationary Sources. It requires such testing on a quarterly basis from the fourth quarter 2001 through second quarter 2002. Considering that December (fourth quarter) 2001 has ended, DERM suggests the following modified language to indicate compliance testing until VOC CEMS is installed, whether for compliance or reasonable assurance:
    a. "A Method 25 or 25A test be conducted within 30 days of issuance of the final construction permit, and continued quarterly thereafter until the CEMS is installed, tested and certified."

5. The annual Relative Accuracy Test Audit, RATA, must be included as an item in Table 2-1.

6. Appropriate changes (depending upon the option chosen in comment 1 of this letter) must be made to Table 2-1 with regards to VOC to reflect the requirements on the test methods, testing time frequency, CMS compliance, etc.

If you have any questions regarding these comments, please contact me at (305) 372-6921.

Sincerely,

Mallika Muthiah

Mallika Muthiah, P.E., Chief
DERM Air Facilities Section

METROPOLITAN DADE COUNTY, FLORIDA

METRODADE

DERM

Department of Environmental Resources Management
33 S.W. 2nd Avenue
Miami, FL. 33130-1540

FAX TRANSMITTAL

SEND TO:

Name: AL LINERO / GREG DE ANGELO

~~Company~~/Department: DEP

Phone Number: (850) 921-9523/9506

Fax Number: (850) 922-6979

Message: Attached please find DERM's comments to the recently issued construction permit for Riker, Miami

FROM:

Name: MALLIKA MUTHIAH

~~Division~~/Section: AIR FACILITIES

Phone Number: (305) 372-6921

Fax Number: (305) 372-6954

Date: 1-24-02

Number of Pages (including this one): 3

MIAMI-DADE COUNTY, FLORIDA

MIAMI-DADE

DERM

ENVIRONMENTAL RESOURCES MANAGEMENT
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33 S.W. 2nd AVENUE
SUITE 900
MIAMI, FLORIDA 33130-1540
TELEPHONE: (305) 372-6925
FAX: (305) 372-6954

January 24, 2002

CERTIFIED MAIL NO. 7000 0600 0027 7981 6298
RETURN RECEIPT REQUESTED

Department of Environmental Protection
Division of Air Resources Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Attn: Alvaro Linero, P.E.

Re: Comments on DRAFT Air Construction Permit Modification
FDEP File Nos.0250014-007 & 008-AC, PSD-FL-324
Rinker Materials Corporation, Miami Cement Plant, Miami-Dade County

Dear Mr. Linero:

The Miami-Dade Department of Environmental Resources Management (DERM) received the Draft Air Construction Permit Modification issued by DEP on December 14, 2001, for the Rinker Materials Corporation facility in Miami. DERM also received a copy of John Koogler's memo dated December 21, 2001 regarding said permit.

DERM staff discussed some of the terms and conditions of this permit and Mr. Koogler's memo with Alvaro Linero and Gregory De Angelo of DEP. Pursuant to the public notice published on December 27, 2001, and subsequent discussions with DEP staff, our comments for your consideration regarding this draft permit are as follows:

1. As the compliance authority for Miami-Dade County, we concur with DEP that there must be a mechanism specified clearly in the final construction permit to determine compliance with the VOC emissions limit. DERM recommends that DEP specify in the construction permit one of the following methods for compliance determination:
    a. Option 1: CEMS shall be used to determine compliance with the VOC emissions limit of 0.12 lb/ton of clinker, proposed in the construction permit. Rinker would have the option of installing appropriate CEMS to measure non-methane total hydrocarbons (NMTHC). Rinker could choose to install CEMS to measure total hydrocarbons, and in that case, the total hydrocarbons will be considered as all VOCs.

Or

b. Option 2: Rinker would install VOC CEMS for the purpose of reasonable assurance. In that case, the following must be required of Rinker for compliance determination:
   i. A Relative Accuracy Test Audit, RATA, for the VOC CEMS on an annual basis. Stack gas emissions should be used for all RATA certification samples.
   ii. An annual VOC compliance testing requirement to include Method 25 or Method 25A in conjunction with Method 18.

2. In Condition B-10, use the correct abbreviation "NMTHC" instead of "THC" when referencing non-methane total hydrocarbons (NMTHC).

3. Clearly specify the "averaging period" of CEMS for VOC measurements as one (1) hour averages determining the 30-day rolling average in the text of Specific Condition B-10 and in Table 1-2, Air Pollutant Standards and Terms. Explain hourly averaging by specifying the minimum number of hourly data points in Table 2-1, Compliance Requirements. DERM recommends the 30-day averaging be calculated by adding the hourly VOC measurements during a 30-day averaging period and dividing it by the total number of hours operated.

4. Condition B-13 requires Method 25 or Method 25A to determine VOC emissions from Stationary Sources. It requires such testing on a quarterly basis from the fourth quarter 2001 through second quarter 2002. Considering that December (fourth quarter) 2001 has ended, DERM suggests the following modified language to indicate compliance testing until VOC CEMS is installed, whether for compliance or reasonable assurance:
   a. "A Method 25 or 25A test be conducted within 30 days of issuance of the final construction permit, and continued quarterly thereafter until the CEMS is installed, tested and certified."

5. The annual Relative Accuracy Test Audit, RATA, must be included as an item in Table 2-1.

6. Appropriate changes (depending upon the option chosen in comment 1 of this letter) must be made to Table 2-1 with regards to VOC to reflect the requirements on the test methods, testing time frequency, CMS compliance, etc.

If you have any questions regarding these comments, please contact me at (305) 372-6921.

Sincerely,

Mallika Muthiah

Mallika Muthiah, P.E., Chief
DERM Air Facilities Section

Rinker
MATERIALS™

RECEIVED
JAN 03 2002
BUREAU OF AIR REGULATION

January 2, 2002

Department of Environmental Protection
Bureau of Air Regulation
111 South Magnolia Drive. Suite 4
Tallahassee, Florida 32301

Administrator New Resource Review:

Enclosed is the notarized copy of the Notice of Intent to Issue published in the Miami Daily Review on 12/27/01 for modification of the air construction permit for Rinker Materials Cement Plant in Miami Dade. Your Department File # 0250014-007 AC PSD-FL-324.

If there are any questions, please contact me at 305-229-2955.

Very truly yours,

Michael D. Vardeman
Environmental Manager
Cement Division

cc: B. DeAngelis
C. Holladay
J. Little, DEPSED
P. Wong, DERM
B. Worley, EPA
J. Bumpus, NPS

Rinker Materials
PO Box 650679 | 1200 N.W. 137 Avenue | Miami, FL 33182 | 305.221.7645 | Fax 305.229.8015
www.rinker.com

MIAMI DAILY BUSINESS REVIEW

Published Daily except Saturday, Sunday and
Legal Holidays
Miami, Miami-Dade County, Florida

STATE OF FLORIDA
COUNTY OF MIAMI-DADE:

Before the undersigned authority personally appeared SOOKIE WILLIAMS, who on oath says that she is the VICE PRESIDENT, Legal Notices of the Miami Daily Business Review f/k/a Miami Review, a daily (except Saturday, Sunday and Legal Holidays) newspaper, published at Miami in Miami-Dade County, Florida; that the attached copy of advertisement, being a Legal Advertisement of Notice in the matter of

INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION

DEP FILE NOS. 0250014-007 & 008-AC PSD-FL-324

in the XXXX Court,
was published in said newspaper in the issues of

12/27/2001

Affiant further says that the said Miami Daily Business Review is a newspaper published at Miami in said Miami-Dade County, Florida and that the said newspaper has heretofore been continuously published in said Miami-Dade County, Florida, each day (except Saturday, Sunday and Legal Holidays) and has been entered as second class mail matter at the post office in Miami in said Miami-Dade County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Sookie Williams

Sworn to and subscribed before me this

27 day of DECEMBER , A.D. 2001

(SEAL)

SOOKIE WILLIAMS personally known to me

MARIA I. MESA
MY COMMISSION # CC 865640
EXPIRES: March 4, 2004
Bonded Thru Notary Public Underwriters

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION
STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DEP FILE NOS. 0250014-007 & 008-AC
(PSD-FL-324)
CSR RINKER MATERIALS CORPORATION
MIAMI CEMENT PLANT
MIAMI-DADE COUNTY

The Department of Environmental Protection (Department) gives notice of intent to issue an Air Construction Permit Modification to CSR Rinker Materials Corporation (Rinker). A Best Available Control Technology (BACT) determination and a review for the Prevention of Significant Deterioration (PSD) was required for emissions of volatile organic compounds (VOC) pursuant to Rule 62-212.400, F.A.C. The applicant's name and address are CSR Rinker Materials Corporation, 1200 Northwest 137th Avenue, Miami, Florida 33182.

The main changes proposed in this action are removal of the beryllium limit modification of the VOC emission limit included in the original permit to modernize the plant issued in September 1997. The federal PSD program no longer requires regulation of beryllium. Beryllium is now regulated under the recently promulgated federal cement industry maximum achievable control technology (MACT) standards and only at cement kilns that (unlike Rinker) burn hazardous waste.

The original VOC limit was 0.1 pounds per ton of clinker (lb/ton) and at this value avoided the need for a BACT determination when the modernization was authorized. Rinker requests an increase to 0.12 lb/ton of clinker. The proposed limit is relatively low compared with recent BACT determination for new kilns throughout the country. It is also much lower than the mentioned cement industry VOC MACT standard of approximately 0.3 lb/ton applicable to new kilns at greenfield plants.

Additional changes in the modified permit include: a condition to reflect addition of equipment to reduce operational problems (scale formation) within the kiln; expression of certain emission limitations using industry conventions; and adoption of additional conditions related to monitoring hydrocarbon in raw materials and VOC emissions from the stack. Sewage sludge will be removed from the previously approved slate of waste fuels at the facility.

A notice by the Miami-Dade County Department of Enviromental Resources Management incorporating the above changes into the facility Title V Operation Permit is being provided simultaneously will be published separately.

The Department will issue the FINAL permit modification with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed permit issuance action for a period of fourteen (14) days from the date of publication of "Public Notice of Intent to Issue Air Construction Permit Modification." Written comments should be provided to the Department's Bureau of Air Regulation of 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the Petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Dept. of Environmental Protection Bureau of Air Regulation 111 S. Magnolia Drive, Suite 4 Tallahassee, Florida, 32301 Telephone: (850) 488-0114 Fax: (850) 922-6979	Dept. of Enviromental Protection Southeast District Office 400 North Congress Avenue West Palm Beach, Florida 33401 Telephone: 407/681-6600 Fax: 407/681-6755	Miami-Dade County Department of Enviromental Resources Management 33 Southwest 2nd Avenue, Suite 900 Miami, Florida 33150-1540 Telephone: 305/372-6925 Fax: 305/372-6954

The complete project file includes the application, technical evaluations, Draft Permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111. F.S. Interested persons may contact the Administrator, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301 or call 850/488-0114, for additional information. Key documents can be viewed at www.dep.state.fl.us/air/permitting/construction.htm by clicking on the Southeast Region of the Florida map.

12/27 01-4-68/223978M

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 ▪ FAX/377-7158

Project No. 963-01-10

Fax

To:	Al Linero FDEP		
Fax No.:	850-922-6979		
From:	Dr Koogler	Fax No.:	352-377-7158
Date:	12-21-01	Time:	5:00 pm
Sent By:	Jee		

This message consists of 3 page(s) PLUS this cover sheet.
If you experience difficulties with this transmission, please call 352-377-5822.

Remarks:

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 • FAX/377-7158

263-01-10

Memorandum

TO: Greg DeAngelo
Florida Department of Environmental Protection, Tallahassee

FROM: John B. Koogler, Ph.D., P.E.

DATE: December 21, 2001

SUBJECT: DEP File No. 0250014-007 & 8-AC (PSD-FL-324)
Rinker Materials Corporation, Miami Cement Plant
Comments on Draft Air Construction Permit

As we've discussed during recent telephone conversations, Rinker is requesting an amendment to the conditions of the above-captioned air construction permit related to continuous emission monitoring for Total Hydrocarbons. Specifically, Rinker is requesting that the Continuous Emission Monitoring System (CEMS) for Total Hydrocarbons (THC) required by permit be used to provide reasonable assurance rather than being used to demonstrate compliance. Our reasons are set forth in the following paragraphs.

Specific Condition B.10 of the above-captioned air construction permit states in part:

> *"...to measure and record the emissions of non-methane Total Hydrocarbons (THC) as the surrogate for VOC emissions from the kiln/raw mill..."*

While there is instrumentation available to measure non-methane THC (the Thermo Environmental Systems Model 55C Hydrocarbon Analyzer, for example) there is no CEMS available which will make this measurement. To the best of our knowledge, the only hydrocarbon analyzers rugged enough to function as an integral part of a CEMS are total hydrocarbon analyzers; i.e., analyzers which measure methane plus non-methane hydrocarbons. As we have discussed with the Department, Rinker will install a CEMS for THC and calibrate, maintain and operate the system as specified in Specific Condition B.10 of the above-captioned air construction permit. It must be recognized, however, that the system Rinker selects will be a THC CEMS and not a non-methane hydrocarbon CEMS.

This being the case, it is inconsistent to use a THC CEMS (methane plus non-methane hydrocarbons) to demonstrate compliance on a continuing basis with the VOC (non-methane hydrocarbon) emission limit established for Rinker's Miami Cement Plant and cited in revised Table 1-2 of the above-captioned permit.

Because of the restrictions imposed by instrumentation, and to be consistent with permit requirements and the monitoring requirements of other recently permitted Portland Cement Plants in Florida, Rinker proposes the following language for the second paragraph of Specific Condition B.10:

> By June 30, 2002, permittee shall install, calibrate, maintain and operate a CEMS in the kiln/raw mill/cooler stack to measure and record the emissions of Total Hydrocarbons (THC) from the kiln/raw mill/cooler. After June 30, 2002, the CEMS shall be used to provide reasonable assurance that the facility will continue to meet the VOC emission limit established by permit (Revised Table 1-2.). The CEMS shall be of the extractive type using a flame ionization detector for monitoring THC. Fuel used for the flame ionization process shall consist of a hydrogen/helium mix specified by the CEMS manufacturer. The CEMS shall be installed, certified, operated and maintained in accordance with Performance Specification 8A, 40 CFR 60, Appendix B. The CEMS data shall be quality assured using the procedures of 40 CFR 60, Appendix F. The CEMS shall be used in conjunction with a flow rate sensor certified in accordance with Performance Specification 6, 40 CFR 60, Appendix B, to calculate THC emission rates. The owner or operator shall report no later than the 15th day following each calendar quarter a summary of the 30-day rolling average THC emissions for the days of that calendar quarter to the Miami-Dade County Department of Environmental Resource Management. These data shall be reported as pounds per hour (propane equivalent) and pounds per ton of clinker (propane equivalent) **[Rule 62-4.070, F.A.C.]**.

The third paragraph of Specific Condition B.10 must also be amended to be consistent with the above-stated amendment.

Also, in the third paragraph of Specific Condition B.10, it is stated that quarterly VOC emission measurements are to be conducted in accordance with EPA Method 25 or 25A until such time that the THC CEMS is installed and certified. It states that these measurements are to begin the fourth quarter of 2001. Given today's date, it is not possible to conduct a VOC emission test at Rinker during the fourth quarter of 2001. It is suggested that this condition be restated as:

> "...and (60 days from the effective date of this permit and quarterly thereafter until the THC CEMS is certified)."

The requirements stated in Revised Table 2-1 related to VOCs must also be amended to be consistent with the above requested amendments.

I appreciate your consideration of these requests. If you have questions or comments regarding this matter, please do not hesitate to contact me at 352-377-5822.

JBK/jhm

cc: Al Linero, FDEP, Tallahassee
Mallika Muthiah, DERM
Scott Benyon, Rinker
Mike Vardeman, Rinker
Segundo Fernandez, OHFC

LAW OFFICES

OERTEL, HOFFMAN, FERNANDEZ & COLE, P.A.

301 SOUTH BRONOUGH STREET
SUITE 500
TALLAHASSEE, FLORIDA 32301

(850) 521-0700
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MAILING ADDRESS:
POST OFFICE BOX 1110
TALLAHASSEE, FLORIDA 32302-1110

http://www.ohfc.com

TIMOTHY P. ATKINSON
JEFFREY BROWN
M. CHRISTOPHER BRYANT
C. ANTHONY CLEVELAND
TERRY COLE
SEGUNDO J. FERNANDEZ
SCOTT W. FOLTZ
KENNETH F. HOFFMAN
KENNETH G. OERTEL
PATRICIA A. RENOVITCH

PAUL A. LEHRMAN
OF COUNSEL

December 21, 2001

VIA HAND DELIVERY

Jack Chisolm, Deputy General Counsel
Office of General Counsel
Florida Department of Environmental Protection
3900 Commonwealth Blvd.
Tallahassee, FL 32399-3000

Re: CSR Rinker Materials Corporation
DEP File No. 0250014-007-AC
DEP File No. 0250017-008-AC
Miami Cement Plant
Notice of Permitting Determination

Dear Jack:

We represent CSR Rinker Materials Corporation with respect to the above-referenced matter. The company received the Department's "Draft Air Construction Permit Modification," the "Technical Evaluation,"the "Intent to Issue Air Construction Permit Modification," and the "Public Notice of Intent to Issue Air Construction Permit Modification," all dated December 14, 2001, on or about December 17, 2001. A copy of the Department's documents are attached hereto as Exhibit A.

Previously, the company received the Department's Notice of Permitting Determination, dated September 28, 2001, on October 1, 2001. A copy of the Department's previous Notice is attached hereto as Exhibit B.

The point of entry to Administrative Proceedings set forth on page 2 of 3 of Exhibits A and B provides that any petition must be filed with the Department within fourteen (14) days of receipt of the Notice.

CSR Rinker Materials Corporation has had continuing discussions with Department staff on the subject of the Notices. The Company requested an extension of time, to

October 29, 2001, by letter dated October 5, 2001. Also, the Company requested an extension of time, to December 28, 2001, by letter dated October 22, 2001.

Pursuant to Rule 28-106.111, Florida Administrative Code, we hereby file this request for an extension of time to file a petition for administrative hearing with respect to the Department's "Draft Air Construction Permit Modification," the "Technical Evaluation,"the "Intent to Issue Air Construction Permit Modification," and the "Public Notice of Intent to Issue Air Construction Permit Modification," all dated December 14, 2001, attached hereto as Exhibit A, and the Notice of Permitting Determination dated September 28, 2001, and attached hereto as Exhibit B, for a two-month period, up to and including Thursday, February 28, 2002. This additional time request was discussed and agreed on December 21, 2001, by John Koogler, Ph.D., P.E., of Koogler & Associates, Gainesville, and DEP air staff. The Department's staff is in the process of revising the Intent language, which should address all outstanding issues.

Thank you for your consideration of this matter. If you have any questions, please feel free call us.

Sincerely,

Segundo J. Fernandez
Timothy P. Atkinson

c: Howard Rhodes
C.H. Fancy, P.E.
A. A. Linero, P.E.
Stacey Cowley
Sharon DeHays
Mike Vardamann
Scott Benyon
John Koogler, Ph.D., P.E.

F:\TPA\LTR\Rinker Const Permit Pet Extension Req 2658-1 12.21.01.wpd

Department of
Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

December 14, 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Ed Allsopp
Vice President of Cement Operations
CSR Rinker Materials Corporation
1200 Northwest 137th Avenue
Miami, Florida 33182

Re: DEP File No. 0250014-007 & 008-AC (PSD-FL-324)
Miami Cement Plant

Dear Mr. Allsopp:

Enclosed is one copy of the Draft Air Construction Permit Modification for the Miami Cement Plant. The Department's Technical Evaluation, Intent to Issue Air Construction Permit Modification, and the "Public Notice of Intent to Issue Air Construction Permit Modification" are also included.

The "Public Notice" must be published one time only as soon as possible in a newspaper of general circulation in the area affected, pursuant to the requirements Chapter 50, Florida Statutes. Proof of Publication, such as a newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in denial of the permit modification. The Department reserves the right to publish the Public Notice at anytime. If the Department publishes the Public Notice, the applicant is relieved of this responsibility.

Please submit any written comments you wish to have considered concerning the Department's proposed action to A.A. Linero, P.E. Administrator, New Source Review Section at the letterhead address. If you have any questions please call Mr. Greg DeAngelo at 850/921-9506 or Mr. Linero at 850/921-9523.

Sincerely,

A.A. Linero P.E.

for C.H. Fancy, P.E., Chief
Bureau of Air Regulation

CHF/al

Enclosures

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Ed Allsopp
V. P. of Cement Operations
CSR Rinker Materials Corporation
1200 Northwest 137th Avenue
Miami, FL 33182

COMPLETE THIS SECTION ON DELIVERY

A. Received by *(Please Print Clearly)*: SHARON FERGUSON — B. Date of Delivery: 12/17/01

C. Signature: X _____ ☐ Agent ☐ Addressee

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Copy from service label)*
7000 2870 0000 7028 2997

PS Form 3811, July 1999 Domestic Return Receipt 102595-99-M-1789

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7000 2870 0000 7028 2997

O F F I C I A L U S E

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	**$**

Postmark Here

Sent To
Ed Allsopp
Street, Apt. No.; or PO Box No.
1200 NW 137th Ave.
City, State, ZIP+4
Miami, FL 33182

PS Form 3800, May 2000 See Reverse for Instructions

DRAFT

Month Date, 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Ed Allsopp
Vice President of Cement Operations
CSR Rinker Materials Corporation
1200 Northwest 137th Avenue
Miami, Florida 33182

Re: DEP File No. 0250014-007 & 008-AC (PSD-FL-324)
Modernization Project/Permit Extension

Dear Mr. Allsopp:

This is pursuant to: your air construction permit extension request dated September 7, 2000; additional requests consolidated in the letter from Koogler and Associates dated June 14, 2001; letters received from Oertel, Hoffman, Fernandez, and Cole, P.A. dated October 5 and 22, 2001, seeking time extensions for taking action on the mentioned requests; and your air construction permit application for modification received by the Department on November 19, 2001.

The Department hereby modifies the original air construction permit issued for the modernization project (September, 1997) as described below. Details of the rationale for the following changes are given in the Department's Technical Evaluation and Preliminary Determination dated December 14, 2001, as well as the enclosed final determination accompanying this letter.

EXPIRATION DATE

The expiration date is hereby extended until March 31, 2002. All physical construction required to make cement and to conduct initial testing is complete. This permit modification authorizes work addressed in the Compliance Plan of Rinker's Title V Operating Permit and further work only for the purpose of installing the bypass, a continuous emission monitoring system (CEMS) for volatile organic compounds (VOC), and additional equipment to burn the specified non-hazardous waste fuels (other than sewage sludge).

Additional work beyond March 31, 2002, on the described projects (other than installation of the VOC monitor) described above shall require submittal of an air construction permit application to the Miami-Dade County Department of Environmental Resources Management.

SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

SUBSECTION A. COMMON CONDITIONS

EMISSION UNITS

. . . . This cement plant is subject to the applicable requirements of the New Source Performance Standards (NSPS) and the National Emissions Standards for Hazardous Air Pollutants (NESHAP), adopted by reference in Rules 62-204.800(7) and (10), F.A.C., including:

- 40 CFR 60 Subpart F, Standards of Performance for Portland Cement Plants.
- 40 CFR 60, Subpart Y, Standards of Performance for Coal Preparation Plants
- 40 CFR 60, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants
- 40 CFR 60, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23,1984

- ~~40 CFR 60, Subpart Eb, Standards of Performance for Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994. (Co-fired combustor reporting requirements only)~~
- 40 CFR 63, Subpart B, Requirements for Control Technology Determinations for Major Sources in Accordance with Clean Air Act Sections 112 (g) and 112 (j).

{Permitting note: This cement plant is not subject to 40 CFR 60, Subpart Eb, Standards of Performance for Municipal Waste Combustors (MWC) for Which Construction is Commenced After September 20, 1994. Cement kilns were explicitly excluded from the NSPS as amended at 62 FR 45115, August 25, 1997 pursuant to court order [*Davis County Solid Waste Management and Recovery District* v. *EPA*, 101 F.3d 1395 (D.C. Cir. 1996), *as amended*, 108 F.3d 1454 (D.C. Cir. 1997)] and in response to industry submitted information showing that cement kilns burn less than 30 percent by weight MWC and less than 11 tons per day MWC.}

SUBSECTION B. SPECIFIC CONDITIONS

EMISSION LIMITATIONS

B.1 The maximum allowable emission rates for the kiln, clinker cooler, raw mill, and preheater/precalciner shall not exceed the limits listed in Revised Table 1-2, Air Pollutant Standards and Terms (attached). **[Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]**

OPERATIONAL LIMITATIONS

B.5 **Fuel Combustion**

(1) Fuels fired in the pyroprocessing system (kiln and precalciner) shall not exceed a total heat input rate of 437 MMBtu/hr and shall consist only of:

a. Bituminous coal, natural gas, petroleum coke, propane, No. 2 fuel oil, residual fuel oil, on-specification and off-specification used oil.

b. Whole tires and tire derived fuel (up to 40% total heat input) may be used as a supplemental fuel, but not as a start-up fuel.

c. Combustion of non-hazardous solid waste, oil filters, booms and rags from spill clean up, generated on site. This non-hazardous solid waste material shall be used as supplemental fuel not as a start-up fuel.

d. Combustion of non-hazardous solid waste (up to ~~30%~~10% of total heat input) may be used as supplemental fuel: unused diapers, papers products, non-chlorinated plastic waste~~, sewage sludge from publicly owned treatment works (POTW)~~. This non-hazardous solid waste material shall ~~be~~ not be used as a start-up fuel.

e. The combined percent heat input from tires, tire-derived fuel and solid waste shall not exceed 40 percent of the total heat input from all fuels on a 24-hour basis.

CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS)

B.10 A continuous emissions monitoring system (CEMS) shall be installed, calibrated, maintained, operated, and used to determine compliance with the emissions limits for NO_X and SO_2 in Revised Table 1-2. CEMS shall be installed and certified, before the initial performance test, and operated in compliance with 40 CFR 60, Appendix F, Quality Assurance Procedures (1996 version) or other Department-approved QA plan; 40 CFR 60, Appendix B, Performance Specification 1, 2, and 3 (1996 version). **[Rules 62-4.070 (3) and 62-204.800, F.A.C.]**

By June 30, 2002, permittee shall install, calibrate, maintain and operate a CEMS in the kiln/raw mill stack to measure and record the emissions of non-methane total hydrocarbons (THC) as the surrogate for VOC emissions from the kiln/raw mill. After June 30, 2002, the CEMS shall be used to determine compliance with the emissions limit for VOC in Revised Table 1-2. The CEM system shall be of the extractive type using flame ionization for monitoring THC. Fuel used for the flame ionization process shall consist of a hydrogen/helium mix specified by the CEMS manufacturer. A compatible stack gas flow monitor designed to measure flow based on the gas density shall also be installed. The system shall be installed, certified, operated and maintained in accordance with Performance Specification 8A of Appendix B of 40 CFR 60. The CEMS data shall be quality assured using the procedures of Appendix F of 40 CFR 60. The owner or

operator shall report no later than the 10th day following each calendar quarter a summary of the 30-day rolling average THC emissions for the days of that calendar quarter to the Miami-Dade County Department of Environmental Resources Management. These results should be reported as pounds per hour (propane equivalence) and pounds per ton of clinker (propane equivalence. **[Rule 62-4.070, F.A.C.]**

B.13 For emissions other than NO_X and SO_2, and for VOC emissions prior to June 30, 2002, compliance with the allowable emission limiting standards listed in Revised Table 1-2 shall be determined by using the following reference methods as described in 40 CFR 60, Appendix A (1996, version) and 40 CFR 61 Appendix B (1996, version) adopted by reference in Chapter 62-204, F.A.C.

Method 5	Determination of Particulate Matter Emissions from Stationary Sources (I) and (A).
Method 8	Determination of Sulfuric Acid Mist from Stationary Sources (I).
Method 9	Visual Determination of the Opacity of Emissions from Stationary Sources (I) and (A).
Method 10	Determination of Carbon Monoxide Emissions from Stationary Sources (I) and (A).
Method 25 or 25A	Determination of Volatile Organic Compound Emissions from Stationary Sources (I) and ~~(A)~~(Quarterly, from fourth quarter 2001 through second quarter 2002).
Method 29	Determination of Lead, ~~Beryllium,~~ and Mercury from Stationary Sources (I).

Prior to June 30, 2002, permittee shall determine the total hydrocarbon (THC) content for each incoming shipment of raw materials through the Department's Method FL-PRO or through some other method approved by the Miami-Dade County Department of Environmental Resources Management.

Emission testing shall be performed at the kiln/cooler main stack during a period when the kiln precalciner, cooler, raw mill and preheater are operating simultaneously and under normal operating conditions. EPA-reference methods for sampling pollutants shall be as specified in 40 CFR 60, Appendix A. Prior to any emission testing to demonstrate compliance with any emission limit, the permittee shall determine the clinker production rate for the test according to a factor based on the preheater/precalciner feed rate and notify the appropriate local compliance agency in advance of the commencement of any test(s). That rate of clinker production shall be used to determine compliance with all clinker-based emission limits in the permit for that test.

These emission units shall comply with all applicable requirements of Rule 62-297.310, F.A.C. General Test Requirements and 40 CFR 60.8. Performance Tests. Revised Table 2-1, Compliance Requirements (attached) also lists the EPA methods.

Testing of emissions shall be conducted with the emission unit operating at capacity and under the different permitted fuels scenarios (petroleum coke, coal, on or off specification used oil, TDF, solid waste, etc.) as specified in Specific Condition No.B.5. Fuel Combustion. The permittee shall provide DERM with a *protocol* that will outline the different fuel scenarios (% of total heat input) that this unit will be burning. Rinker shall obtain the test data necessary to determine whether this kiln is capable of accommodating the burning of coal or petroleum coke and all of the other supplemental fuels specified on Specific Condition B.5. Fuel Combustion. The fuel scenarios tested shall represent the actual combustion percentage (% of total heat input) that is going to be maintained while burning supplemental fuels during normal operation. The frequency of testing shall be determined by DERM.

Permitted capacity is defined as 90-100% of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then the unit may be tested at less than 90% of the maximum operating rate allowed by the permit; in this case, subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen consecutive days for the purpose of additional compliance testing to regain the permitted capacity in the permit. **[Rules 62-204.800, 62-297.310, 62-297.400, 62-297.401, F.A.C., and 40 CFR 60 Appendix A and 40 CFR 60.8, Subpart A].**

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. The Miami-Dade County Department of Environmental Resources Management will revise the present Title V Operation Permit as advised in the Notice of Final (Title V) Permit dated October 31, 2000.

Any party to this permitting decision (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.

Howard L. Rhodes, Director
Division of Air Resources
Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Permit Amendment was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on _____ to the person(s) listed:

Ed Allsopp, VP, Rinker*
Scott Benyon, Rinker
Mike Vardeman, Rinker
Gregg Worley, EPA
John Bunyak, NPS
Isidore Goldman, DEP SED
H. Patrick Wong, Miami-Dade DERM
John Koogler, PhD., P.E., K&A
Martha Nebelsiek, Esq., DEP OGC
Segundo J. Fernandez, Esq., OHF&C

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) (Date)

Revised Table 1-2. Air Pollutant Standards and Terms.

FACILITY ID NUMBER: 0250014

DEP File Nos. 0250014-007 & 008-AC (PSD-FL-324)
Original DEP File No. 0250014-002-AC
Portland Cement Plant and Associated Equipment
16.5 Dry Process Technology

Permittee:
Rinker Materials Corporation

Emission Unit - Kiln System
Cement Plant Modernization

E.U. ID#	Description	Pollutant ID	Fuel(s) [2]	Allowable Emissions [3] Permit limits	Allowable Emissions [3] lb/hr	Equivalent Emissions [4] TPY	Basis
ARMS #	Kiln/Cooler/Raw Mill	PM	coal/gas/WTDF/oil	0.20 lb/ton $kiln_{ph}$ feed *	44	193	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	PM_{10}	coal/gas/WTDF/oil	0.17 lb/ton kiln feed *	37.40	164	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	SO_2	coal/gas/WTDF/oil	~~0.7 lb/MMBTU~~ 2.23 lb/ton of clinker	306	1340	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	NO_x	coal/gas/WTDF/oil	~~1.53 lb/MMBTU~~ 4.9 lb/ton of clinker	671	2940	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	CO	coal/gas/WTDF/oil	3.01 lb/ton clinker	412	1807	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	VOC	coal/gas/WTDF/oil	~~0.1 lb/ton clinker~~ 0.12 lb/ton clinker	~~13.7~~ 16.4	~~60~~ 72	~~RMC - Data~~ BACT
ARMS #	Kiln/Cooler/Raw Mill	H_2SO_{4mist}	coal/gas/WTDF/oil	0.014 lb/ton clinker	1.92	8.4	AP - 42
~~ARMS #~~	~~Kiln/Cooler/Raw Mill~~	~~Beryllium~~	~~coal/gas/WTDF/oil~~	~~$6.6x10^{-7}$ lb/ton clinker~~	~~9.04E-05~~	~~0.000396~~	~~AP - 42~~
ARMS #	Kiln/Cooler/Raw Mill	Mercury	coal/gas/WTDF/oil	$2.4x10^{-5}$ lb/ton clinker	3.30E-03	0.014	AP - 42
ARMS #	Kiln/Cooler/Raw Mill	Lead	coal/gas/WTDF/oil	$7.5x10^{-5}$ lb/ton clinker	0.01	0.045	AP - 42
ARMS #	Kiln/Cooler/Raw Mill	VE	coal/gas/WTDF/oil	10% opacity			NSPS

ALLOWABLE OPERATING RATES

		Kiln/Cooler/Raw Mill
Hours of operation per year	Hours	8760
Kiln preheater feed rate ($kiln_{ph}$) *	TPH	220
Kiln Heat Input	MMBtu/hr	437
Clinker Production [1]	TPH	137
Cooler throughput rate	TPH	137

NOTES

[1] At a maximum design clinker production rate of 137 TPH and preheater feed rate of 220 TPH, utilizing a conversion factor of 0.60: (220 x 0.60 = 137).
[2] Fuel combustion as specified in Specific Condition No. B.5, and the protocols established by DERM. See also Specific Condition B.13.
[3] Compliance Units. This facility shall demonstrate compliance based on these standards.
[4] "Equivalent Emissions" are based on annual emissions at 8760 hrs/yr. The "Equivalent Emissions" are also listed for informational purpose and for PSD and recordkeeping tracking purposes.

Revised Table 2-1. Compliance Requirements.

FACILITY ID NUMBER: 0250014

Original DEP File No. 0250014-002-AC
Permit Modification No. 0250014-007 & 008-AC

Permittee:
Rinker Materials Corportion
Portland Cement Plant No. 2 and Associated Equipment

E.U. ID#	Description	Pollutant Name or parameter	Fuel(s) [1]	EPA/Reference Method/CMS *	Testing Time Frequency	Min. Compliance Test Duration	CMS * Compliance
ARMS #	Kiln/Cooler/Raw Mill	PM/PM_{10}	Oil/Coal /Gas/WTDF	5 or 201/201A	initial/annual [8]	3 one-hr run	
ARMS #	Kiln/Cooler/Raw Mill	VE	Oil/Coal/Gas/WTDF	9/COMS	initial/annual/COMS	3 one-hr run	No [4]
ARMS #	Kiln/Cooler/Raw Mill	SO_2	Oil/Coal/Gas/WTDF	CEMS	daily average	continuous	Yes [6]
ARMS #	Kiln/Cooler/Raw Mill	NOx	Oil/Coal/Gas/WTDF	CEMS	daily average	continuous	Yes [3]
ARMS #	Kiln/Cooler/Raw Mill	CO	Oil/Coal/Gas/WTDF	10 [5]	initial/annual	3 one-hr run	
ARMS #	Kiln/Cooler/Raw Mill	VOC	Oil/Coal/Gas/WTDF	25 or 25A [2]	initial	3 one-hr run	Yes[2]
ARMS #	Kiln/Cooler/Raw Mill	H_2SO_4 mist	Oil/Coal/Gas/WTDF	8	initial	3 one-hr run	
ARMS #	Kiln/Cooler/Raw Mill	Hg, Pb~~, Be~~	Oil/Coal/Gas/WTDF	29	initial	3 one-hr run	
ARMS #	Fugitive sources	VE		9	Protocol [7]		
ARMS #	Minor Sources	VE		9	initial/annual	3 one-hr run	

[1] Initial compliance testing shall be conducted under all the scenarios this facility is planning to operate under. Specific condition B.13. Annual testing of emissions shall be conducted during the worst case scenario that this facility would normally operate under. Frequency of testing after initial compliance shall be determined by DERM. Fuels to be burned are specified in Specific Condition B.5.

[2] VOC emission shall be tested initially and then quarterly beginning the fourth quarter of 2001 (by December 31, 2001) to comply with the condition of this permit. ~~Thereafter, compliance will be assumed provided the CO allowable emission rate is reached~~ . The RATA test conducted for a new VOC CEMS monitor shall meet the requirement for the test conducted in the second quarter of 2002. Thereafter the VOC CEMS shall provide the continuous compliance method and quarterly testing will no longer be required.

[3] NO_x - The continuous emission monitoring system (CEMS) data shall be used for the Kiln for compliance requirement. The CEMS calibration and maintenance shall meet the applicable requirements of 40 CFR 60, Appendix B and Appendix F.

[4] Pursuant to 40 CFR 60, Subpart F, the kiln/cooler exhaust system shall be equipped with continuous opacity monitoring system (COMS) to record the opacity at the stack to indicate proper maintenance and operation. Monitoring of the opacity of emissions shall be demonstrated by COMS pursuant to 40 CFR 60.63. Notification and recordkeeping shall be in accordance with 40 CFR 60.7 and 40 CFR 60.65.

[5] Continuous process monitors for CO and/or O_2 to optimize combustion conditions for pollution control shall be part of the process.

[6] SO_2 - The continuous emission monitoring (CEMS) data shall be used for the Kiln compliance requirement. The CEMS calibration and maintenance shall meet the applicable requirements of 40 CFR 60, Appendix B and Appendix F.

[7] Protocol as approved by the Permitting Authority (DERM).

[8] Rinker has the option of using Method 5 if they stipulate that all of the PM is PM_{10}.

* CMS [=] compliance demonstrated by a continuous monitoring system: CEMS or COMS.

In the Matter of an
Application for Permit by:

CSR Rinker Materials Corporation
1200 Northwest 137th Avenue
Miami, Florida 33182

_____/

DEP File Nos. 0250014-007 & 008-AC (PSD-FL-324)
Extension and Modification of Construction Permit
Miami Cement Plant
Miami-Dade County

INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit modification (copy of DRAFT Permit Modification attached) for the proposed action, detailed in the application specified above and the attached Technical Evaluation and Preliminary Determination, for the reasons stated below.

The applicant, CSR Rinker Materials Corporation, applied by letter dated September 7, 2000 to the Department to extend the expiration date of its current permit to construct (modernize) the Miami Cement Plant in Miami-Dade County. The primary purposes were to allow additional time to complete testing, to design and install a tire handling and burning system, and to add equipment to reduce operational problems (scale formation) within the kiln. Rinker subsequently modified its request (June 28 and November 19, 2001) to remove the beryllium limit, express certain emission limitations using industry conventions, and to modify the volatile organic compounds (VOC) emissions standards.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4, 62-210, and 62-212 of the Florida Administrative Code (F.A.C.). The above actions are not exempt from permitting procedures. The Department has determined that an air construction permit modification and a determination of Best Available Control Technology pursuant to Rule 62-212.400, F.A.C. for VOC is required.

The Department intends to issue this air construction permit based on the belief that the applicant has provided reasonable assurances to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C. In addition, the Miami-Dade Department of Environmental Resources Management (DERM) intends to incorporate the proposed modifications into the applicant's Title V Air Operation Permit; and, the Public Notice is a combined notice and addresses the Intent to Issue this proposed permitting action and the Miami-Dade DERM modification to the applicant's Title V Air Operation Permit simultaneously.

Pursuant to Section 403.815, F.S., and Rule 62-110.106(7)(a)1., F.A.C, you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Construction Permit Modification. The notice shall be published as soon as possible one time only in the legal advertisement section of a newspaper of general circulation in the area affected. Rule 62-110.106(7)(b), F.A.C., requires that the applicant cause the notice to be published as soon as possible after notification by the Department of its intended action. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 850/488-0114; Fax 850/922-6979). You must provide proof of publication within seven days of publication, pursuant to Rule 62-110.106(5), F.A.C. No permitting action for which published notice is required shall be granted until proof of publication of notice is made by furnishing a uniform affidavit in substantially the form prescribed in Section 50.051, F.S. to the office of the Department issuing the permit. Failure to publish the notice and provide proof of publication may result in denial of the permit pursuant to Rules 62-110.106(9) & (11), F.A.C.

The Department will issue the final permit modification with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed permit issuance action for a period of 14 (fourteen) days from the date of publication of Public Notice of Intent to Issue Air Permit Modification. Written

comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit modification and require, if applicable, another Public Notice.

The Department will issue the permit modification with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Mediation is not available in this proceeding. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

Executed in Tallahassee, Florida.

A. A. Linero P.E.
for C. H. Fancy, P.E., Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION (including the PUBLIC NOTICE, Technical Evaluation and Preliminary Determination, and the DRAFT permit modification) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 12/14/01 to the person(s) listed:

Ed Allsopp, VP, Rinker*
Mike Vardeman, Rinker
Gregg Worley, EPA
John Bunyak, NPS
Isidore Goldman, DEP SED
H. Patrick Wong, Miami-Dade DERM
John Koogler, PhD., P.E., K&A
Martha Nebelsiek, Esq., DEP OGC
Segundo J. Fernandez, Esq., OHF&C

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.

Victoria Gibson (Clerk) 12/14/01 (Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP File Nos. 0250014-007 & 008-AC (PSD-FL-324)

CSR Rinker Materials Corporation
Miami Cement Plant

Miami-Dade County

The Department of Environmental Protection (Department) gives notice of intent to issue an Air Construction Permit Modification to CSR Rinker Materials Corporation (Rinker). A Best Available Control Technology (BACT) determination and a review for the Prevention of Significant Deterioration (PSD) was required for emissions of volatile organic compounds (VOC) pursuant to Rule 62-212.400, F.A.C. The applicant's name and address are CSR Rinker Materials Corporation, 1200 Northwest 137th Avenue, Miami, Florida 33182.

The main changes proposed in this action are removal of the beryllium limit and modification of the VOC emission limit included in the original permit to modernize the plant issued in September 1997. The federal PSD program no longer requires regulation of beryllium. Beryllium is now regulated under the recently promulgated federal cement industry maximum achievable control technology (MACT) standards and only at cement kilns that (unlike Rinker) burn hazardous waste.

The original VOC limit was 0.1 pounds per ton of clinker (lb/ton) and at this value avoided the need for a BACT determination when the modernization was authorized. Rinker requests an increase to 0.12 lb/ton of clinker. The proposed limit is relatively low compared with recent BACT determination for new kilns throughout the country. It is also much lower than the mentioned cement industry VOC MACT standard of approximately 0.3 lb/ton applicable to new kilns at greenfield plants.

Additional changes in the modified permit include: a condition to reflect addition of equipment to reduce operational problems (scale formation) within the kiln; expression of certain emission limitations using industry conventions; and adoption of additional conditions related to monitoring hydrocarbon in raw materials and VOC emissions from the stack. Sewage sludge will be removed from the previously approved slate of waste fuels at the facility.

A notice by the Miami-Dade County Department of Environmental Resources Management incorporating the above changes into the facility Title V Operation Permit is being provided simultaneously will be published separately.

The Department will issue the FINAL permit modification with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed permit issuance action for a period of fourteen (14) days from the date of publication of "Public Notice of Intent to Issue Air Construction Permit Modification." Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station # 35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Dept. of Environmental Protection Bureau of Air Regulation 111 S. Magnolia Drive, Suite 4 Tallahassee, Florida, 32301 Telephone: (850) 488-0114 Fax: (850) 922-6979	Dept. of Environmental Protection Southeast District Office 400 North Congress Avenue West Palm Beach, Florida 33401 Telephone:407/681-6600 Fax: 407/681-6755	Miami-Dade County Department of Environmental Resources Management 33 Southwest 2nd Avenue, Suite 900 Miami, Florida 33150-1540 Telephone: 305/372-6925 Fax: 305/372-6954

The complete project file includes the application, technical evaluations, Draft Permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Administrator, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-0114, for additional information. Key documents can be viewed at www.dep.state.fl.us/air/permitting/construction.htm by clicking on the Southeast Region of the Florida map.

TECHNICAL EVALUATION

AND

PRELIMINARY DETERMINATION

CSR RINKER MATERIALS CORPORATION
MIAMI, DADE COUNTY, FLORIDA

Portland Cement Manufacturing Facility
Modernization and Expansion Project
Finalization of Emissions and Monitoring Conditions
VOC BACT Determination

DEP File Nos. 0250014-007 & 008-AC
PSD-FL-324

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

December 14, 2001

I. APPLICANT NAME AND ADDRESS

CSR Rinker Materials Corporation
1200 NW 137th Avenue
Miami, Florida 33182

II. FACILITY INFORMATION

A. FACILITY LOCATION

CSR Rinker Materials Corporation (Rinker) recently modernized the existing Miami Cement Plant by replacing the wet process cement plant with a 1.2 million tons per year (TPY) clinker dry-process cement production line [137 ton of clinker per hour (TPH)].

This site is approximately 8.2 kilometers to the Everglades National Park, a Class I Prevention of Significant Deterioration (PSD) Area, and in an ozone (O_3) maintenance area in Dade County.

B. FACILITY CLASSIFICATION CODE (SIC)

Major Group No. 32, Clay, Glass, and Concrete Products
Industry Group No. 324 Cement, Hydraulic
Industry No. 3241 Cement, Hydraulic

C. FACILITY CATEGORY

The Rinker Materials Corporation (Rinker) Miami Cement Plant directly emits more than 100 TPY of several regulated air pollutants and emits over 10 TPY of at least one hazardous air pollutant (HAP). Therefore it is classified as a "Major Source of Air Pollution or Title V Source," per the definitions in Rule 62-212.200, F.A.C.

This industry is listed in Table 212.400-1, "Major Facilities Categories", Section 62-212.400, F.A.C. Therefore, stack and fugitive emissions of over 100 TPY of carbon monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO_2), nitrogen oxides (NO_X), or particulate matter (PM/PM_{10}) characterize the existing installation as a Major Facility per the definitions in Rule 62-210.200, F.A.C. and subject to applicability review for the requirements of PSD per Rule 62-212.400, F.A.C.

Per Table 212.400-2, "Regulated Air Pollutants – Significant Emission Rates", modifications at the facility resulting in emissions increases greater than 40 TPY of NO_X or SO_2, 7 TPY of sulfuric acid mist (SAM), 25/15 TPY of PM/PM_{10}, 3 TPY of fluorides, 1200 pounds per year (lb/yr) of lead or 200 lb/yr of mercury require review per the PSD rules and a determination for Best Available Control Technology (BACT) per Rule 62-212.400, F.A.C.

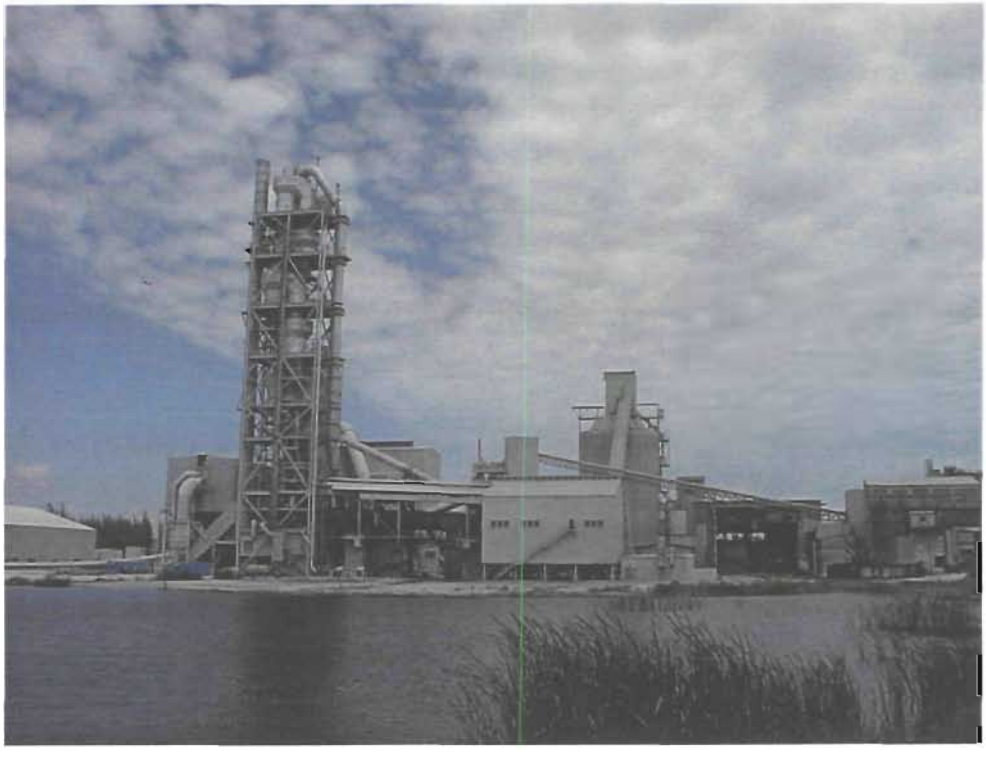
The approved Rinker modernization project was not subject to New Source Review including the PSD provisions because the modernized plant was expected to result in less overall air pollution than the existing plant. This is primarily due to the lower fuel requirements per unit of product characteristic of the dry processes.

III. MODERNIZATION PROJECT

The Department issued a permit to Rinker on September 11, 1997 to modify the existing wet process plant by incorporating the modern dry process technology including a preheater and precalciner along with indirect firing. The dry process preheater/precalciner (PH/PC) kiln is the most fuel-efficient cement pyroprocessing technology currently available. Thermal efficiencies will be improved with the PH/PC kiln and the amount of fuel combusted per ton of clinker produced is expected to be reduced

The modernized cement plant will produce up to 137 TPH of clinker (highest maintained rate over a day). The annual potential production rate will not exceed 1.2 million TPY of clinker. The major equipment will include a PH/PC kiln, a clinker cooler, raw mill, finish mill, silos, conveyers, and particulate control/dust collection and recycling equipment. The cement product will be stored in silos and shipped in bags or in bulk by rail or truck.

A more complete project and process description was provided in the Technical Evaluation and Preliminary Determination issued for the modernization project on June 23, 1997. Rinker completed basic construction of the dry process kiln line in Spring of 2000. Compliance tests were conducted during the second half of the year. Following is a photograph of the constructed dry process plant taken in late June 2001.



CSR Rinker Modernized Dry Process Cement Plant in Miami, Florida

IV. PERMIT EXTENSION REQUEST

The original construction permit provided for an expiration date of May 30, 1999. The permit was revised in 1999 to show an expiration date of September 30, 2000. The Department received a request to further extend the permit (until March 31, 2002) on September 8, 2000. The stated purpose of the extension was for consistency with a Proposed Title V Operation Permit and to conduct additional work to:

- Try out various raw materials to resolve production-limiting issues.
- Design and possibly install a chloride reduction system.
- Design and construct a tire/waste handling system.

The extension of time was addressed through a Compliance Plan incorporated into the Final Title V Operation Permit issued by the Miami-Dade County Department of Environmental Resources Management (DERM).

V. ADDITIONAL PERMIT REQUESTS

Over a period of time, Rinker asked for some additional permit modifications and consolidated them in a single letter plus attachments dated June 14, 2001.

The additional requests are to:

- Adopt emission limit units and reporting requirements for sulfur dioxide and nitrogen oxides that are more consistent with the units for other pollutants from the same plant and the practice at other cement plants throughout the state.
- Propose compliance assurance requirements for VOC beyond initial testing associated with the plant modernization project.
- Remove the beryllium limit in accordance with a Rule revision that removed beryllium as a pollutant regulated under the Department and EPA PSD regulations.
- Propose a variable factor to convert kiln preheater feed rates to clinker production rates for the purposes of calculating emissions based on process rates. Concur with a Department initiative to require empirical raw materials to clinker conversion factors prior to conducting future tests.

VI. VOC BACT DETERMINATION REQUEST

On November 19, 2001, Rinker submitted a request that the Department perform a determination of BACT pursuant to the PSD rules (62-212.400, F.A.C.). The main reason for Rinker's request is that the limit accepted by the company to avoid PSD during the modernization project is very difficult to meet for reasons that are discussed below.

VII. PRESENT SITUATION

As of this time, all physical construction required to make cement at or near the permitted production limit is complete. No facilities have been installed to burn permitted supplementary fuels such as tires, sewage sludge, and non-hazardous solid wastes. A Title V Operation Permit with a Compliance Plan was issued in October 2000. Compliance testing has been conducted. Following are the results of tests for certain pollutants of interest to the Department.

Pollutant	Permit Limit	Result
SO_2	0.70 lb/mmBtu	0.01 lb/mmBtu (~0.03 lb/ton)
NO_X	1.53 lb/mmBtu	1.0 lb/mmBtu (~3 lb/ton clinker)
Beryllium	0.66×10^{-6} lb/ton clinker	1.16×10^{-6} lb/ton clinker
VOC	0.1 lb/ton clinker	0.1 lb/ton clinker

Based on the results, it is clear that emissions of SO_2 are much less than permitted. In fact emissions of SO_2 are now measured in the "tens of tons per year" instead of "thousands" of tons per year. The low emissions are confirmed by the continuous emissions monitoring system (CEMS) installed as a requirement of the modernization permit

Emissions of NO_X are lower than permitted. Prior to the modernization project, emissions were in excess of the 2 lb/mmBtu limit required by the Department's Reasonable Available Control Technology (RACT) regulation for the cement industry in Southeast Florida. The value achieved of 1 lb/mmBtu reflects a substantial reduction in total emissions based on a past-actual-to-future potential emissions basis. The test results are further confirmed by the NO_X CEMS installed as a requirement of the modernization permit.

The emissions of VOC are at the allowable limit based on lb/ton of clinker produced. However annual emissions are still less than the value that would have triggered PSD. The permit required only an initial test for VOC and relied upon carbon monoxide testing as a surrogate for VOC.

The beryllium test result exceeded the permitted limit that was accepted to avoid triggering PSD. Details are discussed below.

VIII. EVALUATION OF UNITS FOR REPORTING SO_2 AND NO_X EMISSIONS

The Department adopted emission limits in terms of lb/mmBtu for SO_2 and NO_X because the applicable requirements were given in these terms. These include the limits in Chapter 24 of the Miami-Dade County Code of 1.1 and 1.2 lb SO_2/mmBtu for liquid and solid fuels respectively. The permit limit was set at 0.70 lb SO_2/mmBtu to avoid PSD applicability as part of a netting calculation.

The SO_2 emissions are significantly lower than permitted. The reason is that the dry preheater/calciner process provides an opportunity for self-scrubbing of the exhaust gases by finely-divided lime. Therefore virtually all fuel sulfur is removed in this manner. The raw

materials fed into the preheater apparently contain minimal sulfur (such as pyrites). Therefore SO_2 emissions from "roasting" in the upper stages of the preheater are minimal.

The Department has reasonable assurance that the project easily complies with the Miami-Dade ordinance and proposes to reset the permit limit to the "lb/ton of clinker" equivalent of 0.70 lb SO_2/mmBtu. The equivalent value is 2.23 lb SO_2/ton of clinker based on the emission limit of 306 lb/hour divided by the permitted clinker production limit of 137 tons per hour.

The NO_X emissions are roughly 60 percent of the permitted value and are roughly equal to levels expected by the Department for the type of kiln installed by Rinker (preheater/precalciner without staged combustion). The actual emissions are about half of the emission limit per the Department's RACT rule applicable to the cement industry of 2.0 lb NO_X/mmBtu.

The permit limit is 1.53 lb NO_X/mmBtu. This was the limit needed to "net out" of PSD during the permitting of the modernization project and meet the RACT rule. The equivalent value is 4.9 lb NO_X/ton of clinker based on the emission limit of 671 lb/hour divided by the permitted clinker production limit of 137 tons per hour.

The Department concludes that that the kiln will comply with the applicable NO_X emission limits by complying with a limitation of 4.9 lb NO_X/ton of clinker. Furthermore on the basis of tests conducted, the Department has reasonable assurance that the unit complies with the NO_X emissions limits.

IX. BERYLLIUM LIMITATION

The beryllium emissions are greater than permitted by about 50 percent. The Department believes that for this type of kiln, raw materials and fuels, baghouses represent the proper technology to control beryllium emissions. The company installed a baghouse but accepted a low value to avoid PSD.

The Department recognizes that the EPA and the Department no longer regulate beryllium as a "PSD pollutant". The pollutant is now regulated under industry-specific rules pursuant to Title III of the Clean Air Act. The Maximum Achievable Control Technology (MACT) rules applicable to cement kilns regulate beryllium at kilns that (unlike Rinker) burn hazardous waste.

For reference, according to an EPA review for setting the cement industry MACT standard emissions of beryllium from 24 kilns ranged from 0.05 to 2.2 $\mu g/m^3$ at 7 percent oxygen. The average is approximately 0.56 $\mu g/m^3$. Rinker reported that its emissions of beryllium were 0.37 $\mu g/m^3$ at 7% O_2. The Department will modify the permit accordingly.

X. BACKGROUND ON VOC ISSUE

The following table is from the Technical Evaluation and Preliminary Determination in support of the modernization permit issued in 1997. The permit allowed an increase of only 32.9 TPY, of which 20.5 TPY were consumed by a contemporaneous soil remediation thermal unit project.

CONTEMPORANEOUS CREDITABLE CHANGES (TPY) [1]

Pollutants	Modernization Project	(+) Increases (Contemporaneous)	(-) Decreases (Shutdowns)	= Total	PSD Significance
PM	353	23.5	539.8	-163.3	25
PM_{10}	285	8.3	283.5	9.8	15
SO_2	1340	36.8	1884.8	-108.0	40
NO_x	2940	60.4	2988.6	11.8	40
CO	1807	15.4	1764.8	57.6	100
VOC	**60**	**20.5**	**47.6**	**32.9**	**40**
SO_3	8.4	0	21.8	-13.4	7

1. Sum of Contemporaneous Creditable Changes (TPY) detailed in Rinker's letter dated April 16, 1997.

As a result, an increase in kiln emissions from 47.6 actual TPY to 60 potential TPY was allowed despite a near doubling in cement output. Emissions of VOC from raw materials in the old wet process were masked by the fact that raw materials are slurried and then dried, calcined, and converted to clinker within the kiln. It was apparently believed that VOC would be evolved in the kiln and would be destroyed in the calciner that would act somewhat as an afterburner.

A similar assumption was made for the new preheater calciner kiln constructed by Florida Rock in Newberry, Florida. In that case, a BACT limit for VOC was set at 0.12 lb/ton of clinker. The company initially failed to achieve the permitted limit and was able to do so after an extensive program to diagnose the causes and potential remedies. Testing at Rinker was scheduled after the testing at Florida Rock and Rinker (with difficulty) met its more stringent limit of 0.1 lb/ton of clinker.

It is quite likely that the Department would have issued a higher BACT limit than the limit necessary to avoid PSD if the request had been made at that time. It is noted that the modernization permit required only the initial test for VOC and that no further testing is specified by the Title V Operation permit. Nevertheless, Rinker has requested both a new limit and permanent testing and monitoring requirements to be incorporated into the Title V Operation Permit.

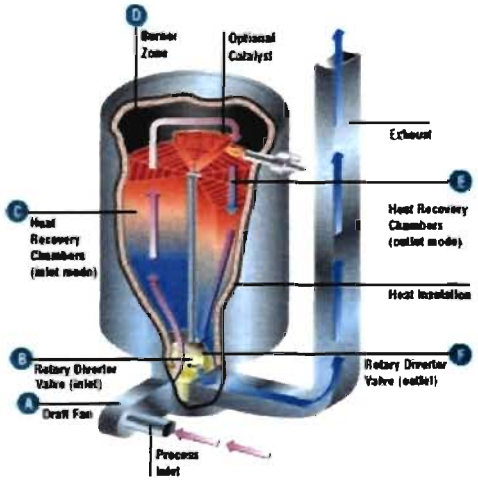
Rinker's request to increase the emission rate to 0.12 (matching the Florida Rock limitation) will result in annual VOC emissions of approximately 72 TPY. This would trigger PSD per the above table because emissions increases including contemporaneous increases and decreases would be approximately 45 TPY versus the PSD threshold of 40 TPY

XI. VOC LIMTATIONS AT OTHER FACILTIES

Following is a tabulation of some recent VOC emission limitations for new cement kiln projects. The approximate value determined by the U.S. Environmental Protection Agency (EPA) as MACT for kilns at greenfield sites is included for comparison. There is no MACT requirement for new kilns or existing kilns at brownfield sites.

PLANT	YEAR	PSD?	VOC (lb/ton)	TECHNOLOGY
Rinker (Revision)	2001	Y	0.12	Process/Raw Materials
Rinker Modernization	1997	N	0.10	Process/Combustion
Fla. Rock Newberry	1996	Y	0.12	Process/Combustion
FCS Brooksville	1995/97	Y	0.085	Process/Combustion
Holnam Midlothian	1997	N	0.70	Process/Combustion
TXI Midlothian	1998	N	0.026	Regen Thermal Oxidation
Tarmac Miami	2000	N	0.19	Process/Combustion
Holnam Holly Hill	2000	Y	0.27	Process/Raw Materials
Suwannee American	2000	Y	0.12	Process/Combustion
St. Lawrence Cement	2001 (draft)	LAER	0.11	Process/Raw Materials
Rio Grande	2000	Y	0.05	Process/Combustion
All Greenfield Plants	Future	MACT	~0.3	Process/Raw Materials

TXI proposed a sophisticated regenerative thermal oxidation (RTO) system that cost about $17,500,000 (installed) and was able to net out of PSD for VOC and CO. In addition to the cost, additional NO_X results from burning natural gas in the RTO.[1] Eleven RTO modules of the type shown below were installed and cover an area approximately the "size of a football field."



A Top/Down BACT determination might not have required such a system at the TXI Midlothian site. However the company wanted to avoid protracted delays in their expansion that were likely if they tried to obtain a PSD permit with a BACT determination in Texas for their modernization/expansion project. No subsequent projects have required RTO systems as BACT or LAER.

Colorado specified an annual limit, based on a rolling 12-month total, for the Rio Grande Portland Cement Operation outside Pueblo, Colorado. This annual limit is equivalent to about 0.05 lb VOC per ton of clinker. After the initial source compliance testing, however, the Rio Grande permit does not provide for additional VOC measurements, other than general language reserving the right to require testing of any emission source as requested by the State.

A special situation (not listed in the above table) caused Holnam to install an RTO for the purpose of VOC/odor control to abate problems associated with high levels of naturally-occuring kerogens in the raw materials available for its plant in Michigan. VOC emissions from that plant were estimated in the "thousands of TPY" versus the 72 TPY foreseen for the Rinker plant.

An alternative to RTO is a carbon filter such as included in the Polysius Environmental Technology (POLVITEC).[2] Such a system was installed at the HCB Siggenthal Plant in Switzerland for multi-pollutant control from dried sewage sludge combustion.[3] The project was feasible because the City of Zurich put up a portion of the capital cost of $15 million for the installation and the plant recovers costs by burning a variety of other wastes.

VOC from raw materials can be controlled by judicious selection of the raw materials. Limestone, clay, and sand are the predominant components of the raw material feed stock. Controlling VOC only through careful selection of raw materials is therefore not a viable option if local, in-state sources of these components are high in VOC content.

There are some control options, however, if the primary materials are relatively free of VOC but the additives, such as mill scale, are high in VOC content. One option is to use mill scale that is free of or cleaned of lubricants.[4] Another is grinding and metering additives directly into the kiln.[5] The organic content of the mill scale is driven off in the preheater. By adding the VOC laden material directly into the hot zone of the kiln instead of the preheater system, the VOC are combusted before they can be emitted.[6]

XII. VOC DRAFT BACT DETERMINATION

The Department has determined that the top control for VOC is 0.026 lb/ton of clinker to be achieved by RTO or carbon adsorption. Reduction of emissions from 0.12 to 0.026 lb/ton would represent annual emission reductions of about 60 TPY. There is no way it can be cost-effective to accomplish such a small reduction through an RTO system or a carbon adsorption filter on a cement kiln. In any event, the plant is only requesting an increase of some 12 TPY.

In Florida, locally available limestone, sand, and clay typically have a low organic content. Mill scale and other additives can be high in VOC content. Adding the mill scale directly to the kiln is not cost-effective in relation to the increased heat consumption of the kiln, possible build ups at

the injection point, and the difficulties in producing the homogeneous kiln feed needed for high quality clinker.[6]

Without judicious selection of raw materials, emissions from kilns such as Rinker and Florida Rock can easily be on the order of 0.2 lb/ton. Both Rinker and Florida Rock have implemented programs to insure VOC content is minimized in the incoming raw materials in addition to having very effective pyroprocessing systems to burn out VOC emanating from the kilns.

By comparison with recent BACT determinations (including a draft LAER determination) with other kilns around the country, the Rinker and Florida Rock kilns have low VOC emissions. The Department believes that 0.12 lb/ton of clinker is the proper limit for the Rinker kiln and that this limit can be met through proper combustion controls and raw materials selection, without the need for additional control devices or direct firing of the additives.

To insure continuous compliance with the VOC emissions limit, the Department will require a continuous emissions monitoring system (CEMS) such as was installed at Florida Rock. Until the CEMS is installed, the Department will require quarterly stack testing and testing of hydrocarbon content in the incoming raw materials.

XIII. OTHER ISSUES

At this time, Rinker is embarking on a project to construct the bypass to solve a problem caused by the buildup of certain chemical species in recirculating streams within the pyroprocessing system. These constituents tend to deposit on certain surfaces in the pyroprocessing equipment causing lower production and periodic shutdowns. Therefore Rinker is still engaged in solving technical production problems and has not yet constructed the equipment to burn the additional solid waste fuels.

No equipment was installed to burn sewage sludge as permitted by the modernization permit. Rinker advised that it does not actually wish to burn this material. Therefore the condition allowing burning of sewage sludge will be deleted from the permit.

The Title V permit recognizes that Rinker may install the mechanisms to introduce and burn tires and tire derived fuel. The project will need to be completed by March 31, 2002 as indicated in the previously issued Title V Operation permit, otherwise, a new air construction permit will be required. Similarly equipment to burn the following non-hazardous wastes has not yet been installed:

- Oil filters, booms and rags from spill clean up, generated on site to be used as supplemental fuel not as a start-up fuel.
- Unused diapers, papers products, and non-chlorinated plastic waste to be used as supplemental fuel not as startup fuel.

XIV. PERMIT MODIFICATION

The Department intends to modify the permit as shown in the enclosed draft letter. The permit will be extended to March 31, 2002 for the purpose of installing the bypass, the VOC CEMS, and any additional equipment to burn the specified non-hazardous waste fuels.

References

[1] Memorandum from Greer, W.L., Trinity Consultants, Inc., Olathe, KS, to Linero, A.A., Florida DEP. *Re: Draft AWMA Paper.* February 9, 2001.

[2] Kupper, D. "Trends on Desulfurization and Denitrification Techniques in the Cement Industry," in *Proceedings of the 34th IEEE Cement Industry Technical Conference.* 1992. Dallas, TX.

[3] de Quervain, B., Ph.D., "Umweltfreundliche Klarschlammverbrunnung am Beispiel des PCW Portand-Cement-Werks," *GWA des Schweizerichen Vereins des Gas und Wasserfaches,* 1992, Sonderdruck No. 1258.

[4] Letter from Fred Cohrs, Florida Rock Industries, to Kirby Green, Florida DEP, re: VOC Emissions Testing, dated September 25, 2000.

[5] Terry, Mark S. "BACT: What is available with Today's Technology," *Krupp Polysius Technical Seminar.* 1999.

[6] Reference Document, "Best Available Techniques" for the Cement Industry," CEMBUREAU (The European Cement Association). December, 1999.

Department of
Environmental Protection

Jeb Bush
Governor

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

David B. Struhs
Secretary

December 3, 2001

Mr. Gregg Worley, Chief
Air, Radiation Technology Branch
Preconstruction/HAP Section
U.S. EPA, Region 4
61 Forsyth Street
Atlanta, Georgia 30303

RE: Rinker Materials Corporation
Miami-Dade County, Florida
DEP File No. 0250014-008-AC, PSD-FL-324

Dear Mr. Worley:

Enclosed for your review and comment is a PSD application submitted by Rinker Materials Corporation for an increase in permitted emissions at their facility in Miami-Dade County, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/922-6979. If you have any questions, please contact me at 850/921-9523 or Greg DeAngelo at 850/921-9506.

Sincerely,

Patty Adams

for Al Linero, P.E.
Administrator
New Source Review Section

AAL/pa

Enclosure

Cc: Greg DeAngelo

Department of
Environmental Protection

Jeb Bush
Governor

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

David B. Struhs
Secretary

December 3, 2001

Mr. John Bunyak, Chief
Policy, Planning & Permit Review Branch
NPS – Air Quality Division
Post Office Box 25287
Denver, Colorado 80225

RE: Rinker Materials Corporation
Miami-Dade County, Florida
DEP File No. 0250014-008-AC, PSD-FL-324

Dear Mr. Bunyak:

Enclosed for your review and comment is a PSD application submitted by Rinker Materials Corporation for an increase in permitted emissions at their facility in Miami-Dade County, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/922-6979. If you have any questions, please contact me at 850/921-9523 or Greg DeAngelo at 850/921-9506.

Sincerely,

Patty Adams for

Al Linero, P.E.
Administrator
New Source Review Section

AAL/pa

Enclosure

Cc: Greg DeAngelo

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 ▪ FAX/377-7158

263-01-10
November 28, 2001

Mallika Muthiah
Chief, Air Facilities Section
Air Quality Management Division
Metropolitan Dade County
Environmental Resources Management
33 S.W. 2nd Avenue, Suite 900
Miami, Florida 33130-1540

Subject: ***Rinker Materials Corporation***
Miami Cement Plant
Title V Permit Revision

Dear Mallika:

Please find enclosed four copies of an application for a Title V Permit revision for the Rinker Materials (Rinker) Miami Cement Plant. This is a companion application to the PSD Construction Permit application submitted to FDEP in Tallahassee on or about November 16, 2001 for an increase in the VOC emission rate from the kiln/raw mill/cooler (Emission Unit 018). Also enclosed, for your information, are copies of the report supporting the PSD Construction Permit application. An updated signature page signed by Mr. Ed Allsopp, Vice President of Cement Operations for Rinker, will be forwarded to you under separate cover.

It is my understanding that this application will be reviewed parallel with the Air Construction Permit application so that a single public notice, covering both permits can be published by Rinker at the appropriate time.

If you have any questions regarding this application please do not hesitate to contact me at 352-377-5822 or at jkoogler@kooglerassociates.com.

Very truly yours,

KOOGLER & ASSOCIATES

John B. Koogler, Ph.D., P.E.

JBK/jm
cc: Al Linero, FDEP Tallahassee
Ed Allsopp, Rinker
Scott Benyon, Rinker
Mike Vardeman, Rinker
Segundo Fernandez, OHFC Tallahassee

Department of Environmental Protection

RECEIVED
NOV 19 2001
BUREAU OF AIR REGULATION

Division of Air Resources Management

APPLICATION FOR AIR PERMIT - TITLE V SOURCE

See Instructions for Form No. 62-210.900(1)

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: **Rinker Materials Corporation**	
2. Site Name: **Miami Cement Plant**	
3. Facility Identification Number: **0250014** [ ] Unknown	
4. Facility Location: Street Address or Other Locator: **1200 NW 137th Avenue** City: **Miami** County: **Dade** Zip Code: **33182**	
5. Relocatable Facility? [ ] Yes [X] No	6. Existing Permitted Facility? [X] Yes [ ] No

Application Contact

1. Name and Title of Application Contact: **John B. Koogler, Ph.D., P.E.**
2. Application Contact Mailing Address: Organization/Firm: **Koogler & Associates** Street Address: **4014 NW 13th Street** City: **Gainesville** State: **Florida** Zip Code: **32609**
3. Application Contact Telephone Numbers: Telephone: **(352) 377-5822** Fax: **(352) 377-7158** e-mail: jkoogler@kooglerassociates.com

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	11-19-01
2. Permit Number:	0250014-008-AC
3. PSD Number (if applicable):	PSD-FL-324
4. Siting Number (if applicable):	

Purpose of Application

Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[ ] Initial Title V air operation permit for an existing facility which is classified as a Title V source.

[ ] Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number:_____

[ ] Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number:_____

Operation permit number to be revised:_____

[ ] Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.)

Operation permit number to be revised/corrected: _____

[ ] Title V air operation permit revision for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit number to be revised:_____

Reason for revision:_____

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

[**X**] Air construction permit to construct or modify one or more emissions units.

[ ] Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

[ ] Air construction permit for one or more existing, but unpermitted, emissions units.

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official:
Ed Allsopp – Vice President of Cement Operations

2. Owner/Authorized Representative or Responsible Official Mailing Address:
Organization/Firm: **Rinker Materials Corporation**
Street Address: **1200 NW 137th Avenue**
City: **Miami** State: **Florida** Zip Code: **33182**

3. Owner/Authorized Representative or Responsible Official Telephone Numbers:
Telephone: **(305) 229-2951** Fax: **(305) 229-8015**

4. Owner/Authorized Representative or Responsible Official Statement:

I, the undersigned, am the owner or authorized representative(check here [ ], if so) or the responsible official (check here [X], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.*

Signature 11/15/01
Date

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: **John B. Koogler, Ph.D.,P.E.**
Registration Number: **12925**

2. Professional Engineer Mailing Address:
Organization/Firm: **Koogler & Associates**
Street Address: **4014 NW 13th Street**
City: **Gainesville** State: **Florida** Zip Code: **32609**

3. Professional Engineer Telephone Numbers:
Telephone: **(352) 377-5822** Fax: **(352) 377-7158**
e-mail: **jkoogler@kooglerassociates.com**

4. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [ ], if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X], if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ], if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Signature _______________ Date 11/16/01

(seal)

* Attach any exception to certification statement.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type	Processing Fee
018	In-Line Kiln/Raw Mill/Clinker Cooler	AC1A	$7500

Application Processing Fee

Check one: [**X**] Attached - Amount: $____**7500**_____ [ ] Not Applicable

Construction/Modification Information

1. Description of Proposed Project or Alterations:

The purpose of this project is to increase in the short-term and annual VOC emission limits for a recently modernized precalciner Portland cement plant. The short-term VOC emission limit will be increased from 0.1 to 0.12 pounds of VOC per ton of clinker, 30-day rolling average and the annual VOC emission cap will be increased from 60.0 to 72.0 tons of VOC per year.

The annual VOC increase of 12.0 ton per year will subject the project to a PSD review pursuant to Rule 62-212.400, F.A.C.

The project will involve no new construction or physical modification to the cement plant nor will it affect the basic raw material or fuels presently permitted for the plant. The increased VOC emission limit will allow more flexibility in the choice of certain raw materials and will set an emission limit that is more representative of a well operated modern cement plant. The only Emission Unit affected is EU-018, the kiln/raw mill/clinker cooler.

2. Projected or Actual Date of Commencement of Construction: **Upon issuance of permit**

3. Projected Date of Completion of Construction: **Upon issuance of permit**

Application Comment

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: **17** East (km): **558.20** North (km): **2851.20**			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): **25/46/45** Longitude (DD/MM/SS): **80/25/10**			
3. Governmental Facility Code: **0**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **32**	6. Facility SIC(s): **3241**
7. Facility Comment (limit to 500 characters):			

Facility Contact

1. Name and Title of Facility Contact: **Michael D. Vardeman – Cement Division Environmental Manager**
2. Facility Contact Mailing Address: Organization/Firm: **CSR Rinker Materials Corporation** Street Address: **1200 NW 137th Avenue** City: **Miami** State: **Florida** Zip Code: **33182**
3. Facility Contact Telephone Numbers: Telephone: **(305) 229-2955** Fax: **(305) 229-8015** e-mail: **mvardeman@rinker.com**

Facility Regulatory Classifications

Check all that apply:

1. [ ] Small Business Stationary Source? [ ] Unknown
2. [X] Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?
3. [ ] Synthetic Minor Source of Pollutants Other than HAPs?
4. [X] Major Source of Hazardous Air Pollutants (HAPs)?
5. [ ] Synthetic Minor Source of HAPs?
6. [X] One or More Emissions Units Subject to NSPS?
7. [X] One or More Emission Units Subject to NESHAP?
8. [ ] Title V Source by EPA Designation?
9. Facility Regulatory Classifications Comment (limit to 200 characters): **Kiln and Clinker Cooler subject to NSPS Subpart F and plant is subject to NESHAP, Subpart LLL.**

List of Applicable Regulations

Title V Core List	
NSPS Subpart Y	
NSPS Subpart F	
NSPS General Provisions	
Code of Metropolitan Dade County, Chapter 24	
NESHAP Subpart LLL	
NESHAP General Provisions	

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap lb/hour	tons/year	4. Basis for Emissions Cap	5. Pollutant Comment
PM/PM10	**A**				
SO2	**A**				
NOx	**A**				
CO	**A**				
VOC	**A**				
HAPS	**B**				

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Area Map Showing Facility Location:
   [X] Attached, Document ID:**PSD Report** [ ] Not Applicable [ ] Waiver Requested
On file with DERM and FDEP, also see PSD Report

2. Facility Plot Plan:
   [X] Attached, Document ID: **PSD Report**[ ] Not Applicable [ ] Waiver Requested
On file with DERM and FDEP, also see PSD Report

3. Process Flow Diagram(s):
   [X] Attached, Document ID: **PSD Report**[ ] Not Applicable [ ] Waiver Requested
On file with DERM and FDEP, also see PSD Report

4. Precautions to Prevent Emissions of Unconfined Particulate Matter:
   [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested

5. Fugitive Emissions Identification:
   [ ] Attached, Document ID:_____ [X] Not Applicable [ ] Waiver Requested

6. Supplemental Information for Construction Permit Application:
   [ ] Attached, Document ID:___**PSD Report**_____ [ ] Not Applicable

7. Supplemental Requirements Comment:
Project permitted 9/11/1997 under FDEP File No. 0250014-002-AC. Basic site information is in that file and is unchanged. This application addresses only VOC emissions from EU-018, the kiln/raw mill/clinker cooler which exhaust through a common stack.

Additional Supplemental Requirements for Title V Air Operation Permit Applications

8. List of Proposed Insignificant Activities:
   [ ] Attached, Document ID:_____ [**X**] Not Applicable

9. List of Equipment/Activities Regulated under Title VI:
   [ ] Attached, Document ID:_____
   [ ] Equipment/Activities On site but Not Required to be Individually Listed
   [**X**] Not Applicable

10. Alternative Methods of Operation:
    [ ] Attached, Document ID:_____ [**X**] Not Applicable

11. Alternative Modes of Operation (Emissions Trading):
    [ ] Attached, Document ID:_____ [**X**] Not Applicable

12. Identification of Additional Applicable Requirements:
    [ ] Attached, Document ID:_____ [**X**] Not Applicable

13. Risk Management Plan Verification:
    [ ] Plan previously submitted to Chemical Emergency Preparedness and Prevention Office (CEPPO). Verification of submittal attached (Document ID:_____) or previously submitted to DEP (Date and DEP Office:_____)
    [ ] Plan to be submitted to CEPPO (Date required:_____)
    [**X**] Not Applicable

14. Compliance Report and Plan:
    [ ] Attached, Document ID:_____ [**X**] Not Applicable

15. Compliance Certification (Hard-copy Required):
    [ ] Attached, Document ID:_____ [**X**] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in This Section: (Check one)

[**X**] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Regulated or Unregulated Emissions Unit? (Check one)

[**X**] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Kiln/Raw Mill/Clinker Cooler

4. Emissions Unit Identification Number:
ID: **018**
[ ] No ID
[ ] ID Unknown

5. Emissions Unit Status Code: **C**	6. Initial Startup Date: **5/2000**	7. Emissions Unit Major Group SIC Code: **32**	8. Acid Rain Unit? [ ]

9. Emissions Unit Comment: (Limit to 500 Characters)
This Emission Unit covers all components from the raw mill to the clinker cooler; all of which is exhausted through a single stack. This emission unit includes fuel used in the kiln and the supplemental air heater for the raw mill. There will be no new construction or physical modifications to the EU nor will there be a change in the fuel or basic raw materials. This application addresses only the VOC emission limit for this EU.

Emissions Unit Control Equipment

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

Fabric Filter - High Temperature (T > 250°F)

Kiln/Raw Mill and Clinker Cooler exhaust through a common baghouse.

2. Control Device or Method Code(s): **016**

Emissions Unit Details

1. Package Unit: **NA**		
Manufacturer:	Model Number:	
2. Generator Nameplate Rating: **NA**	MW	
3. Incinerator Information: **NA**		
Dwell Temperature:		°F
Dwell Time:		seconds
Incinerator Afterburner Temperature:		°F

B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:		**437**	mmBtu/hr
2. Maximum Incineration Rate: **NA**	lb/hr		tons/day
3. Maximum Process or Throughput Rate: **220 TPH dry preheater feed, 30-day avg**			
4. Maximum Production Rate: **3312 TPD, 30-day avg, and 1,200,000 TPY Clinker**			
5. Requested Maximum Operating Schedule:			
	24 hours/day		**7** days/week
	52 weeks/year		**8760** hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):			

C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

List of Applicable Regulations

Title V Core List	
NSPS Subpart F	
NESHAP Subpart LLL	

D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? **Kiln/Raw Mill/Clinker Cooler Stack**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **NA**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **EU-018**		
5. Discharge Type Code: **V**	6. Stack Height: **359** feet	7. Exit Diameter: **11.0** feet
8. Exit Temperature: **260°F**	9. Actual Volumetric Flow Rate: **330,000** acfm	10. Water Vapor: **13.0%**
11. Maximum Dry Standard Flow Rate: **210,000** dscfm	12. Nonstack Emission Point Height: **NA** feet	
13. Emission Point UTM Coordinates: Zone: East (km): North (km):		
14. Emission Point Comment (limit to 200 characters): **Flow in direct operating mode (raw mill down; kiln and cooler only) is 349,000 acfm at 430 °F and 9.0% moisture.**		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Mineral Products: Cement Manufacturing: Dry Process: Preheater/Precalciner Kilns**		
2. Source Classification Code (SCC): **3-05-006-23**	3. SCC Units: **Tons Produced (Clinker)**	
4. Maximum Hourly Rate: **137 Tons, 30-day avg**	5. Maximum Annual Rate: **1,200,000**	6. Estimated Annual Activity Factor: **NA**
7. Maximum % Sulfur: **NA**	8. Maximum % Ash: **NA**	9. Million Btu per SCC Unit: **NA**
10. Segment Comment (limit to 200 characters):		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Industrial Process: In-Process Fuel Use: Natural Gas: Cement Kiln**		
2. Source Classification Code (SCC): **3-05-006-02**	3. SCC Units: **Million Cubic Feet (MMcf) Burned**	
4. Maximum Hourly Rate: **0.42 MMcf Burned**	5. Maximum Annual Rate: **3,646 MMcf Burned**	6. Estimated Annual Activity Factor: **NA**
7. Maximum % Sulfur: **NA**	8. Maximum % Ash: **NA**	9. Million Btu per SCC Unit: **1050 MMBtu/MMcf**
10. Segment Comment (limit to 200 characters): **437 MMBtu/hr x 1.0 MMcf/1050 MMBtu = 0.42 MMcf/hr** **@ 8760 hr/yr = 3646 MMcf/yr**		

Segment Description and Rate: Segment 3 of 9

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Industrial Process: In-Process Fuel Use: Bituminous Coal: Cement Kiln**		
2. Source Classification Code (SCC): **3-90-002-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **16.8 Tons burned**	5. Maximum Annual Rate: **147,168 Tons Burned**	6. Estimated Annual Activity Factor: **NA**
7. Maximum % Sulfur: **3.5**	8. Maximum % Ash: **28.0**	9. Million Btu per SCC Unit: **26 MMBtu/Ton**
10. Segment Comment (limit to 200 characters): **437 MMBtu/hr x 1.0 tons/26 MMBtu = 16.8 tons/hr @ 8670 hr/yr = 147,168 ton/yr**		

Segment Description and Rate: Segment 4 of 9

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Industrial Process: In-Process Fuel Use: Coke: Cement Kiln** **Petroleum Coke as In-Process Fuel**		
2. Source Classification Code (SCC): **3-90-008-99**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **14.6 Tons Burned**	5. Maximum Annual Rate: **127,896 Tons Burned**	6. Estimated Annual Activity Factor: **NA**
7. Maximum % Sulfur: **NA**	8. Maximum % Ash: **NA**	9. Million Btu per SCC Unit: **30 MMBtu/Ton**
10. Segment Comment (limit to 200 characters): **437 MMBtu/hr x 1.0 Ton/30 MMBtu = 14.6 tons/hr @ 8760 hr/yr = 127,896 tons/yr**		

Segment Description and Rate: Segment 5 of 9

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Industrial Process: In-Process Fuel Use: Liquefied Petroleum Gas (LPG): General Use of Propane in Kiln**		
2. Source Classification Code (SCC): **3-90-010-99**	3. SCC Units: **Thousand Gallons Burned (TGB)**	
4. Maximum Hourly Rate: **4.65 TGB**	5. Maximum Annual Rate: **40,734 TGB**	6. Estimated Annual Activity Factor: **NA**
7. Maximum % Sulfur: **negligible**	8. Maximum % Ash: **NA**	9. Million Btu per SCC Unit: **94 MMBtu/TGB**
10. Segment Comment (limit to 200 characters): **437 MMBtu/hr x 1.0 TGB/ 94 MMBtu = 4.65 TGB/hr @ 8760 hr/yr = 40,734 TGB/yr**		

Segment Description and Rate: Segment 6 of 9

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Industrial Process: In-Process Fuel Use: Distillate Oil: Cement Kiln** **Use of No. 2 Fuel Oil in Kiln**		
2. Source Classification Code (SCC): **3-90-005-02**	3. SCC Units: **Thousand Gallons Burned (TGB)**	
4. Maximum Hourly Rate: **3.1 TGB**	5. Maximum Annual Rate: **27,156 TGB**	6. Estimated Annual Activity Factor: **NA**
7. Maximum % Sulfur:**0.5**	8. Maximum % Ash: **NA**	9. Million Btu per SCC Unit: **141 MMBtu/TGB**
10. Segment Comment (limit to 200 characters): **437 MMBtu/hr x 1.0 TGB/ 141 MMBtu = 3.1 TGB/hr @ 8760 hr/yr = 27,156 TGB/yr**		

Segment Description and Rate: Segment 7 of 9

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Industrial Process: In-Process Fuel Use: Residual Oil: Cement Kiln**		
2. Source Classification Code (SCC): **3-90-004-02**	3. SCC Units: **Thousand Gallons Burned (TGB)**	
4. Maximum Hourly Rate: **2.99 TGB**	5. Maximum Annual Rate: **26,192 TGB**	6. Estimated Annual Activity Factor: **NA**
7. Maximum % Sulfur: **2.5**	8. Maximum % Ash: **NA**	9. Million Btu per SCC Unit: **146 MMBtu/TGB**
10. Segment Comment (limit to 200 characters): **437 MMBtu/hr x 1.0 TGB/ 146 MMBtu = 2.99 TGB/hr @ 8760 hr/yr = 26,192 TGB/yr**		

Segment Description and Rate: Segment 8 of 9

1. Segment Description (Process/Fuel Type) (limit to 500 characters): **Industrial Process: In-Process Fuel Use: Liquid Waste: General Use of Used Oil in Kiln**		
2. Source Classification Code (SCC): **3-90-013-99**	3. SCC Units: **Thousand Gallons Burned (TGB)**	
4. Maximum Hourly Rate: **3.64 TGB**	5. Maximum Annual Rate: **31,886 TGB**	6. Estimated Annual Activity Factor: **NA**
7. Maximum % Sulfur: **0.4**	8. Maximum % Ash: **NA**	9. Million Btu per SCC Unit: **120 MMBtu/TGB**
10. Segment Comment (limit to 200 characters): **437 MMBtu/hr x 1.0 TGB/120 MMBtu = 3.64 TGB/hr @ 8760 hr/yr = 31,886 TGB/yr**		

Segment Description and Rate: Segment 9 of 9

1. Segment Description (Process/Fuel Type) (limit to 500 characters):

Industrial Process: In-Process Fuel Use: Solid Waste: Cement Kiln

Combustion of nonhazardous solid waste at up to 40% of total heat input. Materials include, but are not limited to:

- **Whole Tires and/or Tire-Derived Fuel (TDF)**
- **Oil Filters**
- **Booms and Rags from Spill Cleanuip**
- **Unused Diapers**
- **Paper Products**
- **Plastic Waste from Non-chlorinated Plastics**

2. Source Classification Code (SCC): **3-90-012-99**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **6.7 Tons Burned**	5. Maximum Annual Rate: **58,692 Tons Burned**	6. Estimated Annual Activity Factor: **NA**
7. Maximum % Sulfur: **NA**	8. Maximum % Ash: **NA**	9. Million Btu per SCC Unit: **~ 26 MMBtu/Ton**

10. Segment Comment (limit to 200 characters):

437 MMBtu/hr x 40% = 174.8 MMBtu/hr
174.8 MMBtu/hr x 1.0 ton/26 MMBtu = 6.7 ton/hr
@ 8760 hr/yr = 58,692 ton/yr

F. EMISSIONS UNIT POLLUTANTS
(All Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
VOC			**EL**
NOTE: VOCs are the only emissions affected by this application			

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: **VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **16.4** lb/hour **72.0** tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: **NA** [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year	
6. Emission Factor: **0.12 lb/ton Clinker** Reference: **BACT**	7. Emissions Method Code: **0**
8. Calculation of Emissions (limit to 600 characters): **0.12 lb/ton clinker x138 TPH = 16.4 lb/hour** **16.4 lb/hour x 8760 hours/year x 1.0 ton/2000 lb = 72.0 TPY**	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **RULE-BACT**	2. Future Effective Date of Allowable Emissions: **NA**
3. Requested Allowable Emissions and Units: **0.12 lb/ton clinker**	4. Equivalent Allowable Emissions: **16.4** lb/hour **72.0** tons/year
5. Method of Compliance (limit to 60 characters): **Method 25A**	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): **The allowable emissions rate represents BACT.**	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation _ of _

1. Visible Emissions Subtype: **NA**	2. Basis for Allowable Opacity: [ ] Rule [ ] Other
3. Requested Allowable Opacity: Normal Conditions: Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment (limit to 200 characters):	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor __1___ of __1___

1. Parameter Code: **EM**	2. Pollutant(s):
3. CMS Requirement: **NA for VOC**	[ ] Rule [ ] Other
4. Monitor Information: **NA** Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): **This section addresses only VOC continuous monitoring requirements. This EU has CMS for SO2, NOx, and opacity and Flow Rate.**	

J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements

1. Process Flow Diagram [ ] Attached, Document ID:_____ [ ] Not Applicable [**X**] Waiver Requested **On file with DERM and FDEP**
2. Fuel Analysis or Specification [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested
3. Detailed Description of Control Equipment [ ] Attached, Document ID:_____ [ ] Not Applicable [**X**] Waiver Requested **On file with DERM and FDEP**
4. Description of Stack Sampling Facilities [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested
5. Compliance Test Report [ ] Attached, Document ID:_____ [**X**] Previously submitted, Date:__**12/2000**_____ [ ] Not Applicable
6. Procedures for Startup and Shutdown [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested
7. Operation and Maintenance Plan [ ] Attached, Document ID:_____ [**X**] Not Applicable [ ] Waiver Requested
8. Supplemental Information for Construction Permit Application [**X**] Attached, Document ID:__**PSD Report**_____[ ] Not Applicable
9. Other Information Required by Rule or Statute [ ] Attached, Document ID:_____ [**X**] Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation
[ ] Attached, Document ID:_____ [**X**] Not Applicable

12. Alternative Modes of Operation (Emissions Trading)
[ ] Attached, Document ID:_____ [**X**] Not Applicable

13. Identification of Additional Applicable Requirements
[ ] Attached, Document ID:_____ [**X**] Not Applicable

14. Compliance Assurance Monitoring Plan
[ ] Attached, Document ID:_____ [**X**] Not Applicable

15. Acid Rain Part Application (Hard-copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID:_____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID:_____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID:_____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID:_____

[ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
Attached, Document ID:_____

[ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
Attached, Document ID:_____

[**X**] Not Applicable

REPORT
IN SUPPORT OF
AN APPLICATION FOR A PSD
CONSTRUCTION PERMIT REVIEW

RINKER MATERIALS CORP.
Miami Cement Plant
1200 N.W. 137th Avenue
Miami, Florida 33182

November 15, 2001

263-01-10

KOOGLER & ASSOCIATES
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1.0 APPLICANT

Rinker Materials Corporation
Miami Cement Plant
1200 N.W. 137th Avenue
Miami, Dade County, Florida 33182

Authorized Representative: Ed Allsopp, Vice President, Cement Operations

2.0 FACILITY INFORMATION

2.1 Facility Location

Rinker Materials Corporation (Rinker) currently operates a 1.2 million ton per year (clinker) precalciner Portland cement plant at 1200 N.W. 137th Avenue in Miami, Dade County, Florida. The UTM Coordinates of the Rinker plant are Zone 17, 558.20 km East and 2851.20 km North. The plant site is about 8.2 kilometers east of the Everglades National Park; the nearest Class 1 PSD area, and is in the Dade County ozone maintenance area.

The plant location is shown in Figure 2-1 and a site plan is shown in Figure 2-2.

2.2 Standard Industrial Classification Codes (SIC)

Industrial Group No.	32	Stone, clay, glass, and concrete products
Industry No.	3241	Cement-hydraulic

2.3 Project Overview

Rinker recently modernized it's existing Miami Portland cement manufacturing facility by replacing the existing 650,000 ton per year wet-process cement plant with a dry-process precalciner plant capable of producing 1,200,000 tons per year (about 3,300 tons per day) of clinker. A flow diagram of the modernized dry-process cement plant is presented in Figure 2-3.

The modernization project was initially permitted by FDEP, Permit No. 0250014-002-AC issued on September 11, 1997. Construction of the modernized plant was substantially completed in about May 2000 and compliance with permit conditions and the certification of continuous monitors was demonstrated during the period September 2000 through May 2001. Final Title V Operating Permit 0250014-003-AV was issued to Rinker on October 26, 2000. The Title V permit includes a compliance plan which authorizes the completion of certain construction activities.

This permitting action is independent of previous permitting and involves only an increase in the permitted short-term and annual VOC emission limits of the pyro-processing system (Emission Unit 018) with no new construction or physical modifications to the existing plant.

The emission measurements to demonstrate compliance with the permitted VOC emission limit for the pyro-processing system (EU-018) were conducted in December 2000. These emission measurements showed Total Hydrocarbon (THC) emissions in

compliance with, but close to, the emission limit for VOCs of 0.10 pounds per ton of clinker produced.

The VOC emission limit of 0.10 pounds per ton of clinker was proposed by Rinker in the initial permit application for the modernization project because it was reasonable based upon published information in EPA Publication AP-42 and limited test data from wet and dry process Portland cement plants in Florida. The data from AP-42 and test data generated by Koogler & Associates at two dry-process preheater plants and one wet-process plant under coal-fired conditions and coal/tire derived fuel fired conditions indicated that a VOC emission limit of 0.10 pounds per ton of clinker was achievable and would offer a reasonable margin of safety to account for variations in feed materials and plant operating conditions.

Since the time the Rinker permit was issued, better performance based data have been developed regarding VOC emissions from preheater/precalciner Portland cement plants in Florida. Specifically, the data demonstrated that the THC concentration in the gas stream exiting the kiln and precalciner (the pyro-processing system) is essentially non-detectible. The pyro-processing system of the dry-process Portland cement plant is extremely effective in combusting hydrocarbon material in that part of the system. Hydrocarbon measurements made at the top of the preheater tower and in the stack exhausting the kiln/raw mill system, however, have shown varying amounts of hydrocarbons. The hydrocarbons measured at these locations are a function of the hydrocarbon content of the raw meal fed to the preheater and subsequently to the pyro-processing system. It was found that hydrocarbon compounds in the raw meal are

volatilized, but not combusted, in the upper stages of the preheater and appear as THC and/or VOC in the stack gas exhausted from the kiln/raw mill system. Relatively small amounts of hydrocarbon compounds occurring naturally (muck and/or other organic compounds) or resulting from oils and greases present in some raw materials (e.g., mill scale) can significantly influence measured THC and VOC emissions from the kiln/raw mill system.

The emission measurements for THC/VOC at the Rinker plant in December 2000 demonstrated compliance with the VOC emission limiting standard of 0.10 pounds per ton of clinker, but with little margin to accommodate normal fluctuations in plant operating conditions and to explore acceptable new material sources without undue internal operating restrictions. Therefore, Rinker is applying to increase the permitted VOC limit from their modernized dry process precalciner Portland cement plant from 0.10 to 0.12 pounds of VOC per ton of clinker, 30 day average, and to increase the annual VOC emission limit from 60.0 to 72.0 tons per year (based on clinker production of 1.2 million tons per year). The proposed VOC emission limit is consistent with BACT limits approved for two other recently permitted Portland cement plants in Florida and will put Rinker in an equivalent competitive position.

The proposed increase will result in a net VOC increase above baseline conditions of 46.4 tons per year (See Table 4-1). This increase exceeds the VOC Threshold Level defined by Rule 62-212.400, F.A.C., making this project subject to a PSD review. As previously stated, there will be no new construction or physical modifications to existing plant structures associated with this request.

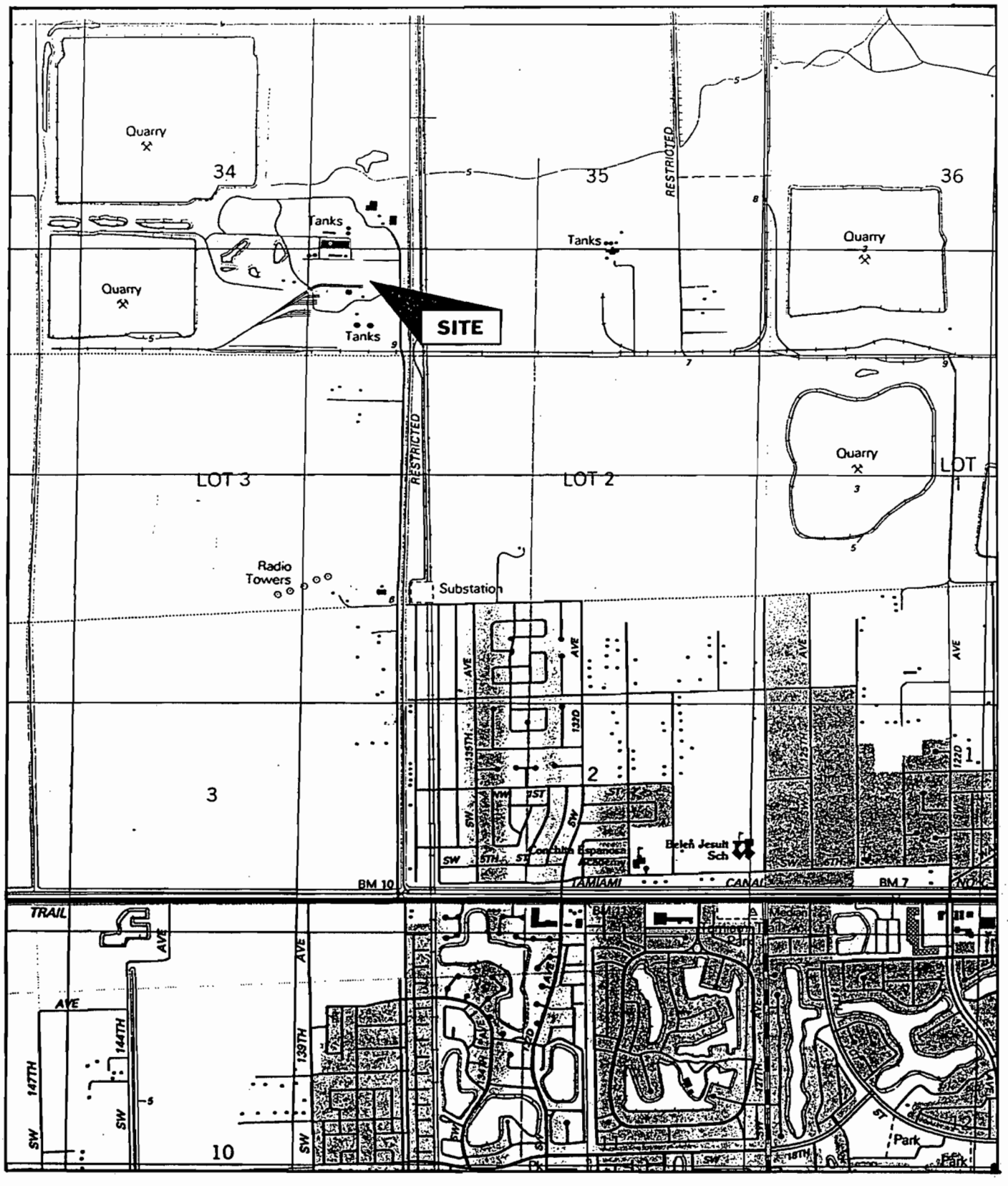

Figure 2-1
Site Location Map
Rinker Materials Corporation
Miami, Florida

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Best Available Copy

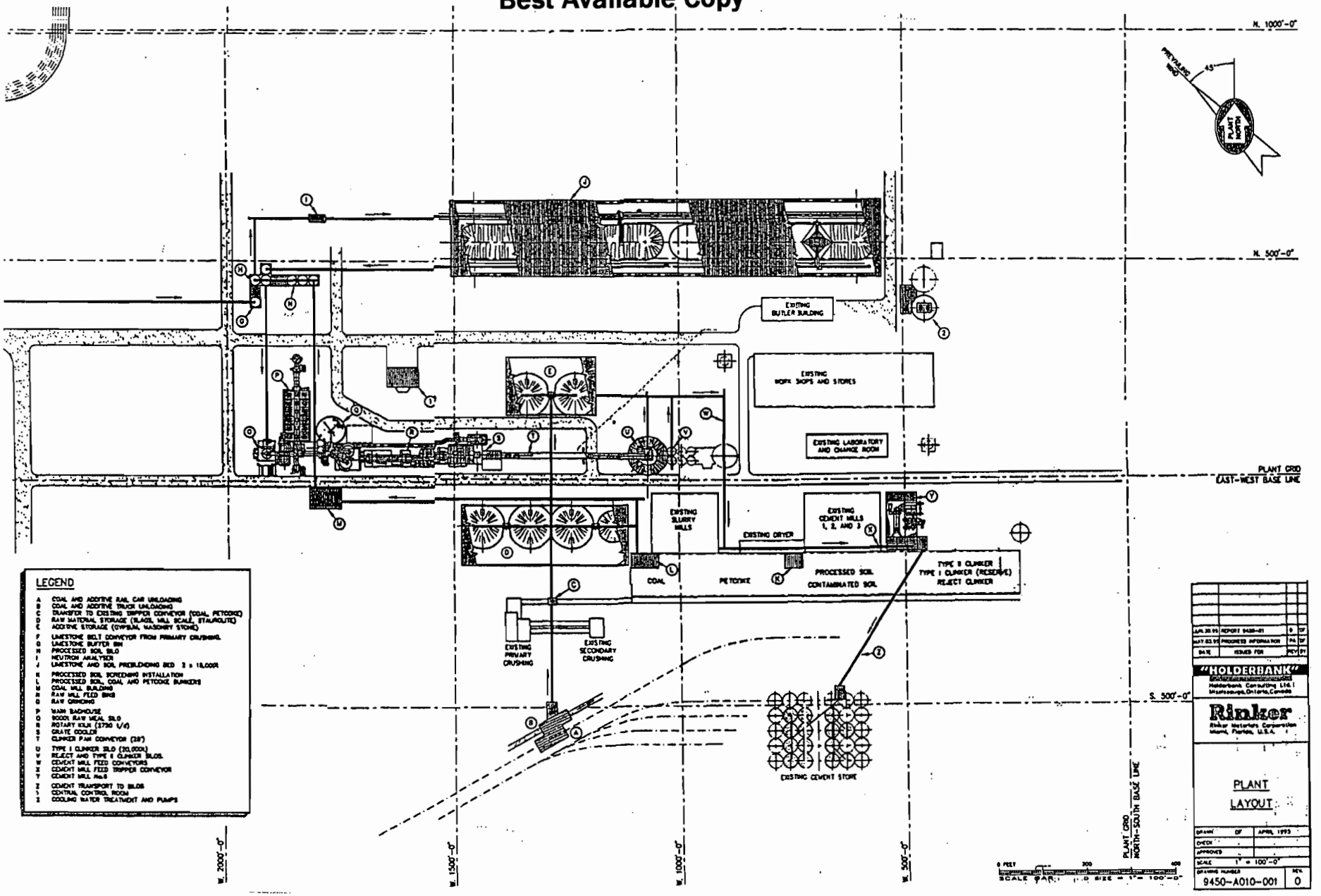

Figure 2-2
Site Plan
Rinker Materials Corporation
Miami, Florida

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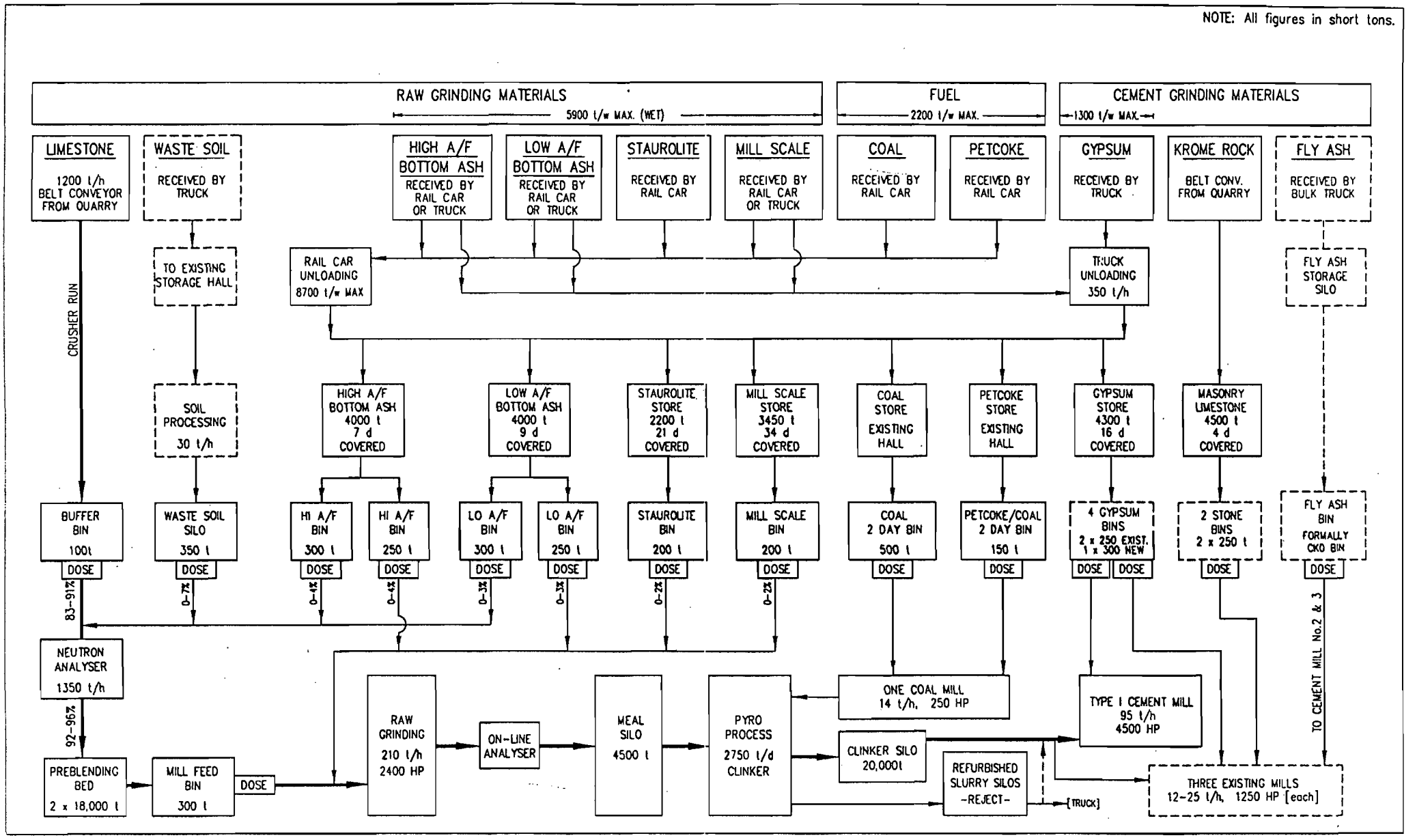

Figure 2-3
Process Flow Diagram
Rinker Materials Corporation
Miami, Florida

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3.0 PROJECT DESCRIPTION

This permitting action is to allow for an increase in the permitted short-term and annual VOC emission limits for the kiln/raw mill/cooler system; all three of which are exhausted through a common baghouse and stack identified as Emission Unit 018 of the 1.2 million ton per year (clinker) Portland cement plant operated by Rinker. The plant is currently permitted by Air Construction Permit No. 0250014-002-AC and Title V Permit No. 0250014-003-AV. The increase in VOC emissions will not result in any new construction or modifications to the existing plant, nor will it effect the permitted production limits, fuels or raw materials of the plant. The emission limits of no other pollutants will be affected by this permitting action.

As this action affects only Emission Unit 018, the kiln/raw mill and clinker cooler, brief descriptions of these units are provided for informational purposes.

3.1 Facility Description

The currently permitted Rinker facility consists of a quarry, limestone crushing system, material receiving facilities both by rail and truck, open short-term material storage piles, a storage building for intermediate raw material and clinker storage, a stone dryer, raw mill system, kiln feed slurry system, six finish mills, two packhouses, thirty-two cement silos, a rail and truck bulk loadout facility, and a liquid fuel tank farm. Recently Rinker replaced the existing two wet- process cement kilns and clinker coolers with a single dry-process kiln with preheater, precalciner and clinker cooler, capable of producing approximately 1,200,000 tons per year of clinker. The modernization project was

permitted under FDEP Permit No. 0250014-002-AC. The facility is described in detail in the file associated with that permit and the proposed action neither modifies nor adds to any of the plant features described therein.

3.1.1 Raw Mill System

Preheater and clinker cooler exhaust gases are used in the raw mill for drying the raw material. The integrated kiln/cooler/mill exhaust system includes fans to enable the recirculating of preheater and cooler waste gases during mill operation. Particulate matter emissions are controlled by a single reverse air baghouse. When the roller mill is down, the kiln gases are cooled by spraying water in the downcomer duct prior to the reverse air baghouse.

3.1.2 Preheater/Precalciner/Kiln System

The raw meal is conveyed from the homogenization silo to a kiln feed bin which controls the flow of feed material to the top of a preheater tower. The material then travels through a five-stage suspension preheater followed by a precalciner prior to entering the kiln.

An in-line calciner (ILC) is utilized for several reasons. First, the tower dimensions are the smallest possible even though the calciner is installed in-line with the cyclone tower. Second, an ILC is very well suited for all fuel types, even low volatile fuels, as the combustion in the calciner takes place in hot atmospheric air (tertiary air). Finally, high material and gas retention times in the calciner are attained with moderate calciner dimensions.

3.1.3 Clinker Cooler

The clinker cooler contains the latest state-of-the-art grate systems. Two types of grates are proposed for the cooler. They are similar in appearance, but differ with respect to the introduction of cooling air into the clinker. For one type of grates, conventional means of supplying cooling air via pressurization of the undergrate area is used. For the second type of grates, cooling air is supplied directly by a special distribution system to groups consisting of two to four individual grate plates. The proposed cooler contains the first type of (CFG) grates in the entire first drive section and part of the second drive sections. The second type of (RFT) grates are used in the remaining part of the second drive section. Operators have the ability to control the quantity and distribution of air to at least every four grates via manual valves and undergrate fan dampers. This aids in reducing clinker fluidization and the presence of "Red Rivers" commonly found in conventional grate coolers, thereby reducing maintenance costs and downtime while contributing to increased cooler efficiency. Greater control of air distribution results in a reduced amount of cooling air compared to a conventional cooler, and consequently a smaller cooler vent volume and improved kiln fuel consumption.

4.0 PROJECT EMISSIONS

The only emissions affected by this permitting action are VOC emissions from the kiln/raw mill/cooler system (Emission Unit 018). No other emissions, process rates or fuel use rates are affected by this permitting action.

The VOC emissions associated with this permitting action are summarized in Table 4 -1. The baseline VOC emissions used for this permitting action are the same baseline emissions used for the original permitting of the plant in 1997. These emissions are used as Rinker has not yet established a two year operating record with the modernized plant.

TABLE 4-1
Proposed VOC Emission Rates

Rinker Materials Corporation
Miami, Florida

Pollutant	ANNUAL VOC EMISSIONS (TPY)					
	Baseline (1)	Contemporaneous Changes		Proposed Cement Plant Emissions (4)	Net Increase	PSD Threshold (5)
		Decrease (2)	Increase (3)			
VOC	46.1	46.1	20.5	72.0	46.4	40

(1) Baseline emissions are actual cement plant emissions during the 1995-96 operation period.
(2) Shut-down of existing wet-process kilns
(3) Permitting of SRU/Stone dryer
(4) Plant was originally permitted (0250014-002-AC issued 9/11/97) with an annual VOC emission limit of 60.0 tpy. This permitting action will increase the annual VOC emissions from the cement plant to 72.0 tpy (0.12 lb/ton clinker and 1.2 million tons of clinker per year).
(5) PSD threshold emissions increase pursuant to Rule 62-212.400, F.A.C.

5.0 RULE APPLICABILITY

This project is subject to preconstruction review requirements under the provisions of Chapter 403, Florida Statutes, and Chapters 62-4, 62-204, 62-210, 62-212, 62-214, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The project is subject to the provisions of Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD), because it will result in an increase of VOC above the threshold defined in Table 212.400-2, F.A.C. This change is therefore subject to review for the PSD and a determination of Best Available Control Technology (BACT) in accordance with Rule 62-212.400, F.A.C. The facility is also subject to the following Federal New Source Performance Standards (NSPS):

Subpart F: Standards of Performance for Portland Cement Plants (40 CFR 60.60)
Subpart Y: Standards of Performance for Coal Preparation Plants (40 CFR 60.250)
Subpart OOO: Standards of Performance for Nonmetallic Mineral Processing Plants (40 CFR 60.670)

Additionally, the facility is subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP):

Subpart LLL: Standards of Performance for Portland Cement Plants (40 CFR 63.1340)

As this permitting action involves only an increase in permitted VOC emissions, the only NSPS or NESHAP Regulation that will be reviewed is the section of the NESHAP which limits VOC emissions from the pyro-processing system of Portland cements plants to 50 ppm (V/V, dry) as propane, corrected to 7 percent oxygen.

6.0 VOC CONTROL TECHNOLOGY

As the VOC emission increase addressed by this permitting action exceeds the threshold defined by Table 212.400-2, F.A.C., the control technology applicable to VOCs must satisfy the requirements of Best Available Control Technology (BACT).

6.1 Bact Determination Procedure

In accordance with Chapter 62-212, F.A.C., a BACT analysis for VOC is based on the maximum degree of reduction that the Department, on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems and techniques. In addition, the regulations state that, in making the BACT determination, the Department shall give consideration to:

- Any Environmental Protection Agency Determination of BACT pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 - Standards of Performance for New Stationary Sources or 40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants.
- All scientific, engineering and technical material and other information available to the Department.
- The emission limiting standards or BACT determination of any other state.
- The social and economic impact of the application of such technology .

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach, therefore, is to determine the most stringent control available for a similar or identical emission unit or emission unit category. If it is

shown that this level of control is technically or economically unfeasible for the emission unit in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental or economic objections.

There are no promulgated emission limitations contained in 40 CFR 60, Subpart F - Standards of Performance for Portland Cement Plants (NSPS) that apply to VOC emissions from cement plants. The MACT (Maximum Achievable Control Technology) Standards at 40 CFR Part 61, Subpart LLL - National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Portland Cement Manufacturing Industry does include a VOC limit as a surrogate for organic HAPS from new Greenfield plants of 50 ppmvd (at 7% oxygen) as propane. Even though Rinker is not a Greenfield plant and is notsubject to this section of the MACT standard, the proposed VOC emission limit for Rinker is 60 percent lower than this MACT VOC limit.

6.2 BACT Control Options

Combustion Control/Materials Selection

VOC emissions from a dry-process precalciner Portland cement plant operating with raw materials typically found in Florida can be controlled at a level in the range of 0.10-0.15 pounds per ton of clinker, with no add-on control equipment, by proper combustion control at the kiln burner and at the precalciner burner and by the use of raw materials low in hydrocarbons.

The combustion control is inherent in the design of modern Portland cement plants. Testing conducted by Koogler & Associates has demonstrated that THC levels at the exit of the pyro-processing system (at the base of the preheater tower) are typically non-detectible. Hydrocarbon compounds (THC and/or VOC) appearing in the stack gas of a well operated, modern dry-process Portland cement plant in Florida are the result of hydrocarbon compounds in feed materials that are volatilized, but not combusted, in the upper stages of the preheater tower.

Compared to other areas of the country, the raw materials available on-site or locally in Florida (i.e., limestone, sand and clay) generally contain very little organic material. Thus, the selection of materials imported as iron and aluminum sources is critical to the control of VOC emissions. With raw materials supplying iron and aluminum that are relatively free of hydrocarbon compounds, VOC emissions from modern, well operated dry-process Portland cement plants in Florida can be controlled to 0.10-0.15 pounds per ton of clinker with no additional add-on equipment.

This control option also has the advantage of introducing no new operating systems, generating no additional air pollutants, creating no liquid or solid waste streams and having no associated energy or cost penalty.

Regenerative Thermal Oxidation (RTO)

This control option exposes the gas stream to high temperatures to oxidize the VOCs to carbon dioxide and water. An auxiliary fuel is used to initially reach the high operating temperatures (1600-1700°F) required. A regenerative thermal oxidizer (RTO) typically

uses ceramic materials to store a large thermal mass generated by thermal oxidation and then uses the fuel value of the inlet gas stream to maintain the oxidation process.

An oxidizer typically consists of a reinforced, insulated twin bed chamber filled with ceramic heat exchanger media. The gas flow is automatically controlled by a poppet valve mechanism that changes the direction of the gas flow at regular intervals via an integral programmable logic control system. An external burner is used for initial cold startup, which would typically be for one hour. With a sufficiently high concentration of VOCs in the incoming gas stream, the destruction of VOCs would be self-sustaining and no auxiliary heat would be required from the external burner. This is not the case for Portland cement plants in Florida where stack gas VOC concentrations are low; in the range of 10 - 15 ppm.

Thermal oxidation is technically feasible and commercially available. Texas Industries, Inc. (TXI), for example, has recently installed an RTO on a modernized Portland cement plant in Midlothian, Texas. TXI installed the RTO because of high levels of kerogens in feed material and a corporate decision to net out of PSD permitting. In the case of the Rinker project, the cost-effectiveness of an RTO for VOC control is in the range of $35,500 per ton; clearly not a cost-effective control alternative (See Section 6.4).

Catalytic Oxidation (CatOx)

CatOx technology passes the contaminated gas stream over a catalyst bed at a moderate temperature sufficient to oxidize the organic compounds to carbon dioxide and water. An auxiliary fuel is required to elevate the gas stream to the required

temperature range. Ideally, once this temperature is reached and the oxidation process begins, there would be enough fuel value in the inlet gas stream so that only minor amounts of auxiliary fuel is required to maintain the operating temperature.

A heat exchanger may be added to preheat the inlet gas stream prior to oxidation (recuperative oxidation). Likewise, ceramic materials may be included in the design to store a large thermal mass generated by the oxidation in order to make use of the fuel value of the inlet gas stream to maintain the oxidation process (regenerative incineration). Both of these methods attempt to reduce the operating costs incurred by the combustion of an auxiliary fuel. Typically, the selection of a catalytic oxidizer depends on the exhaust gas volume and the concentration of the gas stream. At concentrations above 3,000 ppm, the selection of a catalytic oxidizer may be appropriate. This precludes the CatOx technology on Florida Portland cement plants as stack gas VOC concentrations are typically in the range of 10 - 15 ppm.

Activated Carbon Absorption

The captured gas stream is passed across a bed of activated carbon to absorb VOC/HAP. Activated carbon is generally used because its internal pore structure provides a very large surface area on which to absorb the volatile organic compounds. Once the carbon bed becomes saturated with organic compounds, hot air or steam is used to release the VOC for recovery or destruction and regenerate the bed for another cycle. For these systems, when one carbon bed is in operation, another carbon bed is being regenerated. Selection criteria depend on concentration and flow characteristics.

The carbon filter technology is included in the Polysus Environmental Technology (POLVITEC). Such a system was installed at the HCB Siggenthal Plant in Switzerland for multi-pollutant control from dried sewage sludge combustion. The project was feasible because the City of Zurich put of a portion of the capital cost of $15,000,000 for the installation and the plant recovers costs by burning a variety of other wastes. With this capital cost, the annualized cost-effectiveness for VOC control is estimated for the Rinker facility to be in excess of $50,000 per ton (See Section 6.4). This control cost is excessive based on Department guidelines.

Biofiltration

This relatively new technology has been used successfully to control odors from organic compounds. The VOC/HAP-laden gas stream is collected and passed under an active bed of soil containing microorganisms. As the air rises through the bed, the microorganisms consume the chemicals and convert them to carbon dioxide and water. Economics are not favorable for application to the cement industry because of the large volume of stack gas and the low initial stack gas VOC concentration (10 - 15 ppm).

Chemical Scrubber

Chemical scrubbers are absorption systems designed to dissolve a specific pollutant in a solvent, usually water, but based on the chemistry of the exhaust stream. Exhaust streams that include a variety of chemicals may also require a variety of solvents, adding complexity to the control system and potential disposal costs if recovery is not practical. Typically, a VOC concentration above 200 ppm is necessary to make

chemical scrubbing practical. The low stack gas VOC concentrations plus the resulting waste water discharge problems eliminate this technology from further consideration.

Condensation

A condensation system includes refrigeration units to cool the exhaust stream and condense out the chemical contaminants. The condensate is collected and either separated for reuse or disposed of as a waste. For highly concentrated gas streams, these systems can be more than 95% efficient. However, the gas stream from the Rinker plant would be very dilute and the condensate would have little or no value for reuse. Therefore, a condensation system is not considered a viable option for this project.

6.3 Emerging Control Technologies

There appears to be no emerging technologies for VOC control applicable to the Portland cement industries.

6.4 Control Technology Review

The control options that appear viable are :

- Selection of raw materials low in hydrocarbons and combustion control at the main kiln burner and at the precalciner burner,
- Regenerative Thermal Oxidation, and
- Carbon Absorption.

Presently Rinker controls VOC emissions through the selection of raw materials and combustion control.

6.4.1 Material Selection/Combustion Control

Rinker currently controls VOC emissions from their dry-process, precalciner Portland cement plant by combustion technology at the main kiln burner and in the precalciner and through the selection of raw feed materials low in hydrocarbons.

Testing conducted by Koogler & Associates and reported to FDEP demonstrated that the pyro-processing system (the kiln and precalciner) in a modern dry-process Portland cement plant is extremely effective at combusting hydrocarbon compounds generated or introduced to that section of the system. Measurements made by Koogler & Associates have demonstrated the hydrocarbon concentration in the gas stream leaving the pyro-processing system and entering the preheater is essentially non-detectible.

Further testing by Koogler & Associates, also reported to the Department demonstrated, that hydrocarbons appearing in the gas stream at the top of the preheater tower and in the stack gas discharged from the pyro-processing system resulted from hydrocarbons in the feed material introduced to the preheater. It was found that hydrocarbons in the feed material would volatilize, but not combust, as the feed material was heated as it passed into the preheater.

Thus, the selection of raw materials low in hydrocarbons and other organics, coupled with the efficient combustion process inherent in modern precalciner Portland cement plants is a very effective and efficient control alternative for VOC emissions. This control alternative can reduce VOC emissions to the 0.10-0.15 pounds per ton of clinker range with:

- no add-on air pollution control equipment,
- the introduction of no new operating systems that plant operating personnel must become familiar with,
- no energy penalty,
- the generation of no secondary liquid or solid waste streams, and
- the generation of no secondary air pollutants.

This control option is viable for Rinker and other operators in Florida because the raw materials produced on-site or locally (the limestone sand and clay) are generally very low in naturally occurring organic compounds. The selection of raw materials constituting the iron and aluminum sources which are low in organics and hydrocarbon compounds is all that is required to make this a very effective control technology.

6.4.2 Regenerative Thermal Oxidation

As discussed in Section 6.2, Regenerative Thermal Oxidizers (RTO) are technically feasible and commercially available for controlling VOC emissions from Portland cement plants. The RTO installed at the TXI Midlothian Portland cement plant is an eleven module system with a Purchase Equipment Cost (PEC) reported to be approximately $12 million. This system is designed for a stack gas flow rate of approximately 900,000 acfm.

The gas flow rate from the Rinker kiln and raw mill system is approximately 250,000 acfm with an additional 85,000 acfm added by the clinker cooler. If, for VOC control purposes, the gases from the kiln and raw mill only were directed to an RTO (250,000 acfm), three RTO modules would be required at Rinker ((250,000/900,0000) X 11

modules at TXI = 3 modules at Rinker). Based on the PEC at TXI of $12 million, the PEC for Rinker would be approximately $3.3 million. If it is estimated that the PEC is approximately 45 percent of the Total Capital Investment (TCI) and if a 15 percent multiplier is added for retrofit costs (placing the three RTO modules into an existing plant and reducting the clinker cooler exhaust gases), a TCI of $8.4 million is calculated for Rinker.

The annualized costs of an RTO is calculated by estimating the Direct Operating Cost (DOC) and Indirect Operating Cost (IOC) combined at 12.6 percent of the TCI and the Capital Recovery Cost (CRC) equal to 16.3 percent of the TCI (ten years @ 7% interest). The resulting Total Annual Cost is $2.43 million dollars.

If it is estimated that 95 percent of the total annual VOCs (95% of 72.0 tpy) are removed by the RTO, the cost-effectiveness is estimated to be approximately $35,500 per ton.

In addition to this total annual cost, there will be an associated energy penalty for the fuel required to operate the RTO and the NO_x emissions will increase by almost 50 tons per year. The NO_x increase is based on information provided to Koogler & Associates by Smith Engineering Company. Smith quoted (in a budget quote for an RTO for the citrus industry) that the NO_x concentration of gases passing through an RTO will increase by approximately 10 ppm (V/V, dry). Based on a gas flow rate of 250,000 acfm, a 10 ppm increase in the NO_x concentration will result in annual NO_x emissions of approximately 50 tons per year.

Based upon the cost-effectiveness of an RTO of approximately $35,500 per ton of VOC removed, the energy penalty, the increase in NO_x emissions and the introduction of a new operating system, the RTO is rejected as a viable control alternative.

6.4.3 Carbon Absorption

Activated carbon absorption is being used to control VOC emissions from the HCD Siggenthal Cement Plant in Switzerland. This plant is reportedly approximately the size of the Rinker plant and the capital cost of the carbon absorption system is reportedly in the range of $15 million. Without conducting a rigorous cost-effectiveness analysis, it can reasonably be estimated that the cost-effectiveness of a carbon absorption system for VOC will be in excess of $50,000 per ton.

This cost is estimated by comparing the capital cost (TCI) of the carbon absorption system at the Siggenthal Plant ($15 million) with the TCI of $8.4 million estimated for an RTO at the Rinker facility. The cost- effectiveness of the RTO was approximately $35,500 per ton. Based on a ratio of the TCIs, it is very reasonable to expect that the cost-effectiveness of carbon absorption will be well in excess of $50,000 per ton.

Based upon Department guidelines, this cost is considered excessive and carbon absorption is rejected as a viable VOC control alternative for the Rinker facility.

6.5 Proposed BACT

The VOC control option proposed by Rinker as Best Available Control Technology (BACT) is combustion control and raw material selection. The VOC emission limit

proposed as BACT is 0.12 pounds per ton of clinker, 30-day rolling average, and 72.0 tons per year. This is equivalent to an hourly VOC emission rate of 16.6 pounds per hour, 30-day rolling average.

The proposed VOC emission limit is consistent with emission limits permitted as BACT or LAER for other recently permitted cement plants (See Table 6-1). The only VOC emission limit permitted as BACT that is significantly lower than the limit proposed by Rinker is the limit of 0.026 pounds of VOC per ton of clinker permitted for the aforementioned TXI plant in Midlothian, Texas. This limit was permitted based on the application of an RTO which has been demonstrated not to be cost-effective for the Rinker facility.

Also listed in Table 6-1 is the equivalent VOC emission rate of approximately 0.3 pounds per ton of clinker which is equivalent to the Maximum Achievable Control Technology (MACT) standard for new Greenfield Portland cement sites. This limit is based on the VOC limit established by MACT of 50 ppm (as propane), corrected to seven percent oxygen and reported on a dry-gas basis, and Rinker stack gas flow characteristics. The BACT limit proposed by Rinker is 60 percent lower than the equivalent MACT standard.

Control technology represented by Regenerative Thermal Oxidation and Carbon Absorption have both been rejected as viable control options for the Rinker facility. The cost-effectiveness of both of these control technologies far exceeds a "reasonable control cost" established by FDEP guidelines. Additionally, both of these alternatives will introduce energy penalties, introduce new operating systems and will either increase the emission rates of other pollutants or generate a secondary waste stream which will require disposal.

TABLE 6-1

Recently Permitted BACT and LAER Limits
for
Portland Cement Plants

Plant	Year	PSD?	VOC(lb/ton)	Technology
Rinker (proposed)	2001	Y	0.12	Process/Raw Materials
Rinker Miami	1997	N	0.10	Process/Combustion
Puerto Rican Cement	1997	Y	0.12	Process/Combustion
Florida Rock Newberry	1996	Y	0.12	Process/Combustion
FCS Brooksville	1995/97	Y	0.085	Process/Combustion
Holnam Midlothian	1997	N	0.70	Process/Combustion
TXI Midlothian	1998	N	0.026	RTO
Tarmac Miami	2000	N	0.19	Process/Combustion
Holnam Holly Hills	2000	Y	0.27	Process/Raw Materials
Suwannee American	2000	Y	0.12	Process/Combustion
St. Lawrence Cement	2001 (draft)	LAER	0.11	Process/Raw Materials
All Greenfield Plants	Future	MACT	~0.3 (1)	Process/Raw Materials

(1) Based on Rinker Operating Features

7.0 SOURCE IMPACT ANALYSIS

7.1 Air Quality Impact Analysis

The proposed permitting action will increase VOC emissions in excess of PSD threshold levels defined in Table 212.400-2, F.A.C. Therefore, an air quality impact analysis is potentially required by PSD regulations.

Although this action is potentially subject to a source impact analysis, it is exempt as the net increase in VOC emissions is less than 100 tons per year. As defined by Table 212.400-3, F.A.C., a VOC emission increase of less than 100 tons per year will result in a de minimis impact on ambient ozone levels. Hence, a source impact analysis is not required.

It should further be pointed out that the total VOC emissions from the entire Rinker facility are less than 100 tons per year (See Table 4-1).

7.2 Additional Impact Analyses

Federal Secondary Ambient Air Quality Standards are established to protect the public welfare including the protection of animal and plant life, property, visibility and atmospheric clarity, and the enjoyment of life and property.

The U.S. Environmental Protection Agency was directed by Congress to develop primary and secondary ambient air quality standards. The primary standards were to protect human health and the secondary standards were to:

"...protect the public welfare from any known or anticipated adverse effects of a pollutant." The public welfare was to include soils, vegetation and visibility.

As a basis for promulgating the air quality standards, EPA undertook studies related to the effects of all major air pollutants and published criteria documents summarizing the results of the studies. The studies included in the criteria documents were related to both acute and chronic effects of air pollutants. Based on the results of these studies, the criteria documents recommended air pollutant concentration limits for various periods of time that would protect against both chronic and acute effects of air pollutants with a reasonable margin of safety.

This permitting action affects only VOC emissions from the Rinker facility and no air quality standards have been promulgated for VOCs. The ambient impact of VOCs is considered only as it affects ozone, and the VOC emissions increase from this action is de minimis per Table 212.400-3, F.A.C.; *DeMinimus Ambient Impacts.*

No quantifiable air quality impacts are projected for the area as a result of general commercial, residential, industrial and other growth associated with this permitting action.

7.3 Good Engineering Practice Stack Height

In accordance with Chapter 62-210, F.A.C., the degree of emission limitation required for control of any pollutant is not to be affected by a stack height that exceeds GEPP, or any other dispersion technique. GET stack height is defined as the highest of:

- 65 meters (m), or
- A height established by applying the formula:

$$H_g = H + 1.5\ L$$

where:

H_g – GEP stack height,

H – Height of the structure or nearby structure, and

L – Lesser dimension, height or projected width of nearby structure(s)

The Rinker stack was reviewed during the initial permitting of the plant (FDEP File No. 0250014-002-AC) and found to be in conformance with GEP criteria. Nothing associated with this permitting action will effect the kiln/raw mill/cooler stack.

LAW OFFICES

OERTEL, HOFFMAN, FERNANDEZ & COLE, P.A.

301 SOUTH BRONOUGH STREET
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TALLAHASSEE, FLORIDA 32301

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KENNETH F. HOFFMAN
KENNETH G. OERTEL
PATRICIA A. RENOVITCH

PAUL A. LEHRMAN
OF COUNSEL

October 22, 2001

VIA HAND DELIVERY

Jack Chisolm, Deputy General Counsel
Office of General Counsel
Florida Department of Environmental Protection
3900 Commonwealth Blvd.
Tallahassee, FL 32399-3000

Re: CSR Rinker Materials Corporation
DEP File No. 020014-007-AC
Miami Cement Plant
Notice of Permitting Determination

Dear Jack:

We represent CSR Rinker Materials Corporation with respect to the above-referenced matter. The company received the Department's Notice of Permitting Determination, dated September 28, 2001, on October 1, 2001. A copy of the Department's Notice is attached hereto as Exhibit A. The point of entry to Administrative Proceedings set forth on page 2 of 3 of Exhibit A provides that any petition must be filed with the Department within fourteen (14) days of receipt of the Notice.

CSR Rinker Materials Corporation is desirous of continuing discussions with Department staff on the subject of the Notice. The Company requested an extension of time, to October 29, 2001, by letter dated October 5, 2001. On Thursday, October 18, representatives of the Company met with the Department's Air Permitting staff in Tallahassee, and agreed on certain actions to resolve all pending issues. However, additional time is needed to implement these matters. Company representatives and the Department staff agreed that a further extension of time would be desirable. Accordingly, an extension of time in which to file a petition for hearing, should filing a petition be necessary, is both desirable and reasonable.

EXHIBIT B

LAW OFFICES

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October 22, 2001

VIA HAND DELIVERY

Jack Chisolm, Deputy General Counsel
Office of General Counsel
Florida Department of Environmental Protection
3900 Commonwealth Blvd.
Tallahassee, FL 32399-3000

Re: CSR Rinker Materials Corporation
DEP File No. 020014-007-AC
Miami Cement Plant
Notice of Permitting Determination

Dear Jack:

We represent CSR Rinker Materials Corporation with respect to the above-referenced matter. The company received the Department's Notice of Permitting Determination, dated September 28, 2001, on October 1, 2001. A copy of the Department's Notice is attached hereto as Exhibit A. The point of entry to Administrative Proceedings set forth on page 2 of 3 of Exhibit A provides that any petition must be filed with the Department within fourteen (14) days of receipt of the Notice.

CSR Rinker Materials Corporation is desirous of continuing discussions with Department staff on the subject of the Notice. The Company requested an extension of time, to October 29, 2001, by letter dated October 5, 2001. On Thursday, October 18, representatives of the Company met with the Department's Air Permitting staff in Tallahassee, and agreed on certain actions to resolve all pending issues. However, additional time is needed to implement these matters. Company representatives and the Department staff agreed that a further extension of time would be desirable. Accordingly, an extension of time in which to file a petition for hearing, should filing a petition be necessary, is both desirable and reasonable.

Pursuant to Rule 28-106.111, Florida Administrative Code, we hereby file this request for an extension of time to file a petition for administrative hearing with respect to the Notice of Permitting Determination dated September 28, 2001, and attached hereto Exhibit A, up to and including Friday, December 28, 2001. As stated above, an additional time request was discussed and agreed to by Mr. Scott Benyon and Mr. Mike Vardamann of Rinker and Mr. Al Linero and Mr. Clair Fancy of DEP.

Thank you for your consideration of this matter. If you have any questions, please feel free call us.

Sincerely,

Segundo J. Fernandez
Timothy P. Atkinson

c: Howard Rhodes
C.H. Fancy, P.E.
A. A. Linero, P.E.
Stacey Cowley
Sharon DeHays
Mike Vardamann
Scott Benyon
John Koogler, Ph.D., P.E.

F:\Document\TPA\LTR\Rinker Const Permit Pet Extension Req 2658-1 10.22.01.wpd

Department of Environmental Protection

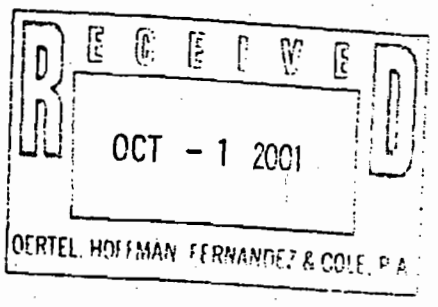
Jeb Bush
Governor

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

David B. Struhs
Secretary

September 28, 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED



Ms. Sharon DeHays, V.P Cement Operations
CSR Rinker Materials Corporation
1200 Northwest 137th Avenue
Miami, Florida 33182

Re: DEP File No. 0250014-007-AC
Miami Cement Plant

Dear Ms. DeHays:

Enclosed is one copy of the Draft Air Construction Permit Modification for the Miami Cement Plant. The Department's Technical Evaluation, Intent to Issue Air Construction Permit Modification, and the "Public Notice of Intent to Issue Air Construction Permit Modification" are also included.

The "Public Notice" must be published one time only as soon as possible in a newspaper of general circulation in the area affected, pursuant to the requirements Chapter 50, Florida Statutes. Proof of Publication, i.e. newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in denial of the permit modification. The Department reserves the right to publish the Public Notice at anytime. If the Department publishes the Public Notice, the applicant is relieved of this responsibility.

Please submit any written comments you wish to have considered concerning the Department's proposed action to A.A. Linero, P.E. Administrator, New Source Review Section at the letterhead address or contact him at 850/921-9523.

Sincerely,

for C.H. Fancy, P.E., Chief
Bureau of Air Regulation

CHF/al

Enclosures

Exhibit "A"

In the Matter of an
Application for Permit by:

CSR Rinker Materials Corporation
1200 Northwest 137th Avenue
Miami, Florida 33182

DEP File No. 0250014-007-AC
Extension and Modification of Construction Permit
Miami Cement Plant
Miami-Dade County

INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit modification (copy of DRAFT Permit Modification attached) for the proposed action, detailed in the application specified above and the attached Draft Control Technology Review, for the reasons stated below.

The applicant, CSR Rinker Materials Corporation, applied by letter dated September 7, 2000 to the Department to extend the expiration date of its current permit to construct (modernize) the Miami Cement Plant in Miami-Dade County. The primary purposes were to allow additional time to complete testing, to design and install a tire handling and burning system, and to add equipment to reduce operational problems (scale formation) within the kiln. Rinker subsequently modified its request to remove the beryllium limit, express certain emission limitations using industry conventions, and to provide reasonable assurance of compliance with the volatile organic emissions standards.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4, 62-210, and 62-212 of the Florida Administrative Code (F.A.C.). The above actions are not exempt from permitting procedures. The Department has determined that an air construction permit modification is required to extend the expiration date of the permit and to include a final limit for sulfuric acid mist emissions.

The Department intends to issue this air construction permit based on the belief that the applicant has provided reasonable assurances to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C. In addition, the proposed modifications have been included in the Northeast District's DRAFT Title V Air Operation Permit; and, the Public Notice is a combined notice and addresses the Intent to Issue this proposed permitting action and the Northeast District's Title V Air Operation Permit simultaneously.

Pursuant to Section 403.815, F.S., and Rule 62-110.106(7)(a)1., F.A.C, you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Construction Permit Modification. The notice shall be published as soon as possible one time only in the legal advertisement section of a newspaper of general circulation in the area affected. Rule 62-110.106(7)(b), F.A.C., requires that the applicant cause the notice to be published as soon as possible after notification by the Department of its intended action. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 850/488-0114; Fax 850/922-6979). You must provide proof of publication within seven days of publication, pursuant to Rule 62-110.106(5), F.A.C. No permitting action for which published notice is required shall be granted until proof of publication of notice is made by furnishing a uniform affidavit in substantially the form prescribed in Section 50.051, F.S. to the office of the Department issuing the permit. Failure to publish the notice and provide proof of publication may result in denial of the permit pursuant to Rules 62-110.106(9) & (11), F.A.C.

The Department will issue the final permit modification with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed permit issuance action for a period of 14 (fourteen) days from the date of publication of Public Notice of Intent to Issue Air Permit Modification. Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If

written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit modification and require, if applicable, another Public Notice.

The Department will issue the permit modification with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Mediation is not available in this proceeding. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name,

address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

Executed in Tallahassee, Florida.

A A Linero P.E.
for C. H. Fancy, P.E., Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION (including the PUBLIC NOTICE, Technical Evaluation and Preliminary Determination, and the DRAFT permit modification) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 9/28/01 to the person(s) listed:

Sharon DeHays, VP, Rinker*
Mike Vardeman, Rinker
Gregg Worley, EPA
John Bunyak, NPS
Isidore Goldman, DEP SED
H. Patrick Wong, Miami-Dade DERM
John Koogler, PhD., P.E., K&A
Martha Nebelsiek, Esq., DEP OGC
Segundo J. Fernandez, Esq., OHF&C ✓

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.

Victoria Gibson 9/28/01
(Clerk) (Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP File No. 0250014-007-AC

CSR Rinker Materials Corporation
Miami Cement Plant

Miami-Dade County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit modification to CSR Rinker Materials Corporation (Rinker). A Best Available Control Technology (BACT) determination and a review for the Prevention of Significant Deterioration (PSD) were not required pursuant to Rule 62-212.400, F.A.C. The applicant's name and address are CSR Rinker Materials Corporation, 1200 Northwest 137th Avenue, Miami, Florida 33182.

The change requiring this public notice is the removal, at Rinker's request, of the beryllium limit included in the original permit issued in September 1997. The federal PSD program no longer requires regulation of beryllium. Beryllium is now regulated under industry-specific Maximum Achievable Control Technology (MACT) regulations for Hazardous Air Pollutants. The Cement Industry MACT regulates of beryllium only for cement kilns that (unlike Rinker) burn hazardous waste.

Additional changes in the modified permit include: a condition to reflect addition of equipment to reduce operational problems (scale formation) within the kiln; expression of certain emission limitations using industry conventions; adoption of additional conditions to provide reasonable assurance of compliance with the volatile organic emissions standards; and modification of conditions to remove presently permitted solid waste fuels that will not actually be burned without further additional modification of the pyroprocessing system.

The Department will issue the FINAL permit modification with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed permit issuance action for a period of fourteen (14) days from the date of publication of "Public Notice of Intent to Issue Air Construction Permit Modification." Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station # 35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within

fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Dept. of Environmental Protection Bureau of Air Regulation 111 S. Magnolia Drive, Suite 4 Tallahassee, Florida, 32301 Telephone: (850) 488-0114 Fax: (850) 922-6979	Dept. of Environmental Protection Southeast District Office 400 North Congress Avenue West Palm Beach, Florida 33401 Telephone:407/681-6600 Fax: 407/681-6755	Miami-Dade County Department of Environmental Resources Management 33 Southwest 2nd Avenue, Suite 900 Miami, Florida 33150-1540 Telephone: 305/372-6925 Fax: 305/372-6954

The complete project file includes the application, technical evaluations, Draft Permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Administrator, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-0114, for additional information.

DRAFT

Month Date, 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Sharon DeHays
Vice President of Cement Operations
CSR Rinker Materials Corporation
1200 Northwest 137th Avenue
Miami, Florida 33182

Re: DEP File No. 0250014-007-AC
Modernization Project/Permit Extension

Dear Ms. DeHays:

This is pursuant to your air construction permit extension request dated September 7, 2000 as well as additional requests consolidated in the letter from Koogler and Associates dated June 14, 2001. Per the letter dated June 28 from Oertel-Hoffman, Rinker requested that the Department enter a time extension for taking action on the mentioned requests until September 30. The initial action was taken by issuance of an Intent to Issue a Construction Permit Modification dated September 28, 2001.

As of this time, the plant has been built and produces cement. It has been tested while burning certain fuels, but not while combusting any solid wastes. No equipment was installed for the introduction of such wastes into the kiln. A project is underway to add a bypass to reduce operational problems related to elevated recirculating chemical species that ultimately cause deposits on key surfaces within the pyroprocessing system. We understand that, per Rinker, that the plant can operate the bypass without the need for changes in the permitted heat input and emission rates.

Details of the rationale for the following changes are given in the Department's Technical Evaluation and Preliminary Determination dated September 28 as well as the enclosed final determination accompanying this letter.

EXPIRATION DATE

The expiration date is hereby extended until March 31, 2002. All physical construction required to make cement and to conduct initial testing is complete. This permit modification authorizes further work only for addition of continuous emission monitoring equipment and installation of the bypass system.

SUBSECTION A. COMMON CONDITIONS: 40 CFR 60 NEW SOURCE REVIEW STANDARDS

- ~~40 CFR 60, Subpart Eb, Standards of Performance for Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994. (Co-fired combustor reporting requirements only)~~

SUBSECTION B. SPECIFIC CONDITIONS:

EMIISION LIMITATIONS

B.1 The maximum allowable emission rates for the kiln, clinker cooler, raw mill, and preheater/precalciner shall not exceed the limits listed in Revised Table 1-2, Air Pollutant Standards and Terms (attached). **[Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]**

B.5 **Fuel Combustion**

(1) Fuels fired in the pyroprocessing system (kiln and precalciner) shall not exceed a total heat input rate of 437 MMBtu/hr and shall consist only of:

a. Bituminous coal, natural gas, petroleum coke, propane, No. 2 fuel oil, residual fuel oil, on-specification and off-specification used oil.

~~b. Whole tires and tire derived fuel (up to 40% total heat input) may be used as a supplemental fuel, but not as a start-up fuel.~~

~~c. Combustion of non-hazardous solid waste, oil filters, booms and rags from spill clean up, generated on site. This non-hazardous solid waste material shall be used as supplemental fuel not as a start-up fuel.~~

~~d. Combustion of non-hazardous solid waste (up to 10% of total heat input may be used as supplemental fuel: unused diapers, papers products, non-chlorinated plastic waste, sewage sludge from publicly owned treatment works (POTW). This non-hazardous solid waste material shall be not be used as a start-up fuel.~~

~~e. The combined percent heat input from tires, tire-derived fuel and solid waste shall not exceed 40 percent of the total heat input from all fuels on a 24-hour basis.~~

COAL AND PETROLEUM COKE

(2) The coal usage rate shall not exceed 16.8 TPH based on a 24-hour average. The petroleum coke usage rate shall not exceed 14.6 TPH on a 24 hour basis.

~~*TIRES*~~

~~(3) Whole tires and tire-derived fuel along with the permitted non-hazardous solid waste material may be fed continuously at the kiln inlet at the base of the precalciner at a rate not to exceed 174.8 MMBtu/hr (40% of total kiln and precalciner fuel input) on a 24-hour basis.~~

~~(4) Before initiating tire firing, the gases exiting the kiln shall reach a minimum temperature of 1400 degrees F for one hour and the oxygen level in the kiln, as measured at the cement plant induced draft fan, shall reach at least 3 percent (1-hour average). Upon reaching steady state conditions, and within 6 hours, gases exiting the kiln shall be maintained at an outlet temperature of at least 1750 degrees F.~~

CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS)

B.10 A continuous emissions monitoring system (CEMS) shall be installed, calibrated, maintained, operated, and used to determine compliance with the emissions limits for NO_X and SO_2 in Revised Table 1-2. CEMS shall be installed and certified, before the initial performance test, and operated in compliance with 40 CFR 60, Appendix F, Quality Assurance Procedures (1996 version) or other Department-approved QA plan; 40 CFR 60, Appendix B, Performance Specification 1, 2, and 3 (1996 version).
[Rules 62-4.070 (3) and 62-204.800, F.A.C.]

By March 31, 2002, permittee shall install, calibrate, maintain and operate a continuous emission monitoring system in the kiln/raw mill stack to measure and record the emissions of VOC from the kiln/raw mill. The CEM system shall be installed, certified, operated and maintained in accordance with Performance Specification 8A of Appendix B of 40 CFR 60. The CEM system's data shall be quality assured using the procedures of Appendix F of 40 CFR 60. The owner or operator shall report no later than the 10th day following each calendar quarter a summary of the 30-day rolling average VOC emissions for the days of that calendar quarter to the Miami-Dade County Department of Environmental Resources Management Office. These results should be reported as pounds per hour of VOC as propane, and pounds of VOC as propane per ton of clinker. **[Rule 62-4.070, F.A.C.]**

B.13 For emissions other than NO_X and SO_2, compliance with the allowable emission limiting standards listed in Revised Table 1-2 shall be determined by using the following reference methods as described in 40 CFR 60, Appendix A (1996, version) and 40 CFR 61 Appendix B (1996, version) adopted by reference in Chapter 62-204, F.A.C.

Method 5	Determination of Particulate Matter Emissions from Stationary Sources (I) and (A).
Method 8	Determination of Sulfuric Acid Mist from Stationary Sources (I).
Method 9	Visual Determination of the Opacity of Emissions from Stationary Sources (I) and (A).

Method 10 Determination of Carbon Monoxide Emissions from Stationary Sources (I) and (A).
Method 25 or 25A Determination of Volatile Organic Compound Emissions from Stationary Sources (I) and (A).
Method 29 Determination of Lead, ~~Beryllium~~, and Mercury from Stationary Sources (I).

Emission testing shall be performed at the kiln/cooler main stack during a period when the kiln precalciner, cooler, raw mill and preheater are operating simultaneously and under normal operating conditions. EPA-reference methods for sampling pollutants shall be as specified in 40 CFR 60, Appendix A. Prior to any emission testing to demonstrate compliance with any emission limit, the permittee shall determine the clinker production rate for the test according to a factor based on the preheater/precalciner feed rate and notify the appropriate local compliance agency in advance of the commencement of any test(s). That rate of clinker production shall be used to determine compliance with all clinker-based emission limits in the permit for that test.

These emission units shall comply with all applicable requirements of Rule 62-297.310, F.A.C. General Test Requirements and 40 CFR 60.8. Performance Tests. Revised Table 2-1, Compliance Requirements (attached) also lists the EPA methods.

Testing of emissions shall be conducted with the emission unit operating at capacity and under the different permitted fuels scenarios (petroleum coke, coal, on or off specification used oil~~, TDF, solid waste, etc.~~) as specified in Specific Condition No.B.5. Fuel Combustion. The permittee shall provide DERM with a *protocol* that will outline the different fuel scenarios (% of total heat input) that this unit will be burning. Rinker shall obtain the test data necessary to determine whether this kiln is capable of accommodating the burning of coal or petroleum coke and all of the other supplemental fuels specified on Specific Condition B.5. Fuel Combustion. The fuel scenarios tested shall represent the actual combustion percentage (% of total heat input) that is going to be maintained while burning supplemental fuels during normal operation. The frequency of testing shall be determined by DERM.

Permitted capacity is defined as 90-100% of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then the unit may be tested at less than 90% of the maximum operating rate allowed by the permit; in this case, subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen consecutive days for the purpose of additional compliance testing to regain the permitted capacity in the permit. **[Rules 62-204.800, 62-297.310, 62-297.400, 62-297.401, F.A.C., and 40 CFR 60 Appendix A and 40 CFR 60.8, Subpart A].**

~~B.20 In order to document compliance with Specific Condition No. B5(3) Tires:~~

~~(1) A log shall be established and maintained for the hours of operation using tires as supplemental fuel. The log shall include the daily tire usage (hours) as supplemental fuel at the facility, a monthly running total of the tire usage (hours), and a cumulative 12 month running total (hours), to ensure that the annual limit is not exceeded.~~

~~(2) A log shall be maintained that includes the date of all tire deliveries to the facility, and the total quantity (nearest 0.1 tons) of tires received.~~

~~(3) A tire usage control system shall be installed to assure that the tire usage as supplemental fuel at the facility does not exceed the maximum of 178.4 million Btu heat input to the kiln and precalciner or 6.7 tons per hour. The control system shall include a verification method and a log that insures and documents that the tires usage and heat input limits are not exceeded.~~

~~(4) A log for the utilization rate (tons per hour) of tires shall be maintained. The utilization rate of tires as supplemental fuel shall be determined by a continuous weighing method and shall be recorded.~~

~~(5) All logs shall be maintained on file for at least five (5) years and shall be made available to the Department upon request.~~

B.26 This facility shall maintain a central file containing all measurements, records, and other data that are required to be collected pursuant to the various specific conditions of this permit. Operators shall keep a daily Operation and Maintenance log to include, at a minimum, the following information:

- The data collected from in-stack monitoring instruments
- The records on daily feed rates and clinker production rate
- The amount and type of fuel burned
- ~~Total quantity (by weight) of tires used as supplemental fuel~~
- ~~The firing rate of whole tires shall be quantified (weighed) continuously and recorded~~
- Calibration logs for all instruments
- Maintenance/repair logs for any work performed on equipment or instrument which is subject to this permit;
- Total coal, petroleum coke, natural gas, ~~solid waste material,~~ and oil usage.

All measurements, records, and any other data required to be maintained by CSR Rinker shall be retained for at least five (5) years following the date on which such measurements, records, or data are recorded. These data shall be made available to the FDEP and to DERM upon request. DERM shall be notified in writing at least 15 days prior to the testing (auditing) of any instrument required to be operated by these specific conditions in order to allow witnessing by authorized personnel. **[Rule 62-4.070(3), F.A.C.]**

~~B.27 The Permittee shall comply with Rules 62-701 and 62-711, F.A.C. All original submittals in response to this Specific Condition shall be submitted to:~~

~~Waste Tire Financial Coordinator~~
~~Solid Waste Management Section~~
~~Department of Environmental Protection~~
~~2600 Blair Stone Road~~
~~Tallahassee, Florida 32399-2400~~

~~Solid Waste Section~~
~~Department of Environmental Protection~~
~~Southeast District Office~~
~~P O Box 15425~~
~~West Palm Beach, Florida 33416~~

~~B.28 The maximum allowable number of waste tires stored on site at any time is 28,000. Only whole waste tires shall be stored on site.~~

~~B.29 No processed waste tires shall be stored or burned at this site at any time unless the permittee obtains a permit modification from the Department. Waste tires shall only be received in enclosed trailers from registered waste tire collectors who possess valid registrations pursuant to Rule 62-711, F.A.C.~~

~~B.30 The Permittee shall not place waste tires on the ground. Waste tires shall be received in closed vans and unloaded directly into the tire feeding hopper. Also, in order to control mosquitoes at the site, waste tires shall be sprayed with an insecticide prior to receipt at the facility.~~

~~B.31 The Permittee shall document the number of tires burned during a week and then establish storage and inventory based on a typical weekly requirement. The Permittee shall keep all documentation concerning tire inventory at the site and make the information available for Department review during inspections.~~

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. The Miami-Dade County Department of Environmental Resources Management will revise the present Title V Operation Permit as advised in the Notice of Final (Title V) Permit dated October 30, 2000.

Any party to this permitting decision (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.

Howard L. Rhodes, Director
Division of Air Resources
Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Permit Amendment was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on _____ to the person(s) listed:

Sharon DeHays, VP, Rinker*
Mike Vardeman, Rinker
Gregg Worley, EPA
John Bunyak, NPS
Isidore Goldman, DEP SED
H. Patrick Wong, Miami-Dade DERM
John Koogler, PhD., P.E., K&A
Martha Nebelsiek, Esq., DEP OGC
Segundo J. Fernandez, Esq., OHF&C

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) (Date)

Revised Table 1-2. Air Pollutant Standards and Terms.

FACILITY ID NUMBER: 0250014

Permittee:
Rinker Materials Corporation

Original DEP File No. 0250014-002-AC
Permit Modification No. 0250014-007-AC
Portland Cement Plant and Associated Equipment
Dry Process Technology

Emission Unit - Kiln System
Cement Plant Modernization

				Allowable Emissions [3]		Equivalent Emissions [4]	
E.U. ID#	Description	Pollutant ID	Fuel(s) [2]	Permit limits	lb/hr	TPY	Basis
ARMS #	Kiln/Cooler/Raw Mill	PM	coal/gas/~~WTDF~~/oil	0.20 lb/ton $kiln_{ph}$ feed *	44	193	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	PM_{10}	coal/gas/~~WTDF~~/oil	0.17 lb/ton kiln feed *	37.40	164	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	SO_2	coal/gas/~~WTDF~~/oil	~~0.7 lb/MMBTU~~ 2.23 lb/ton of clinker	306	1340	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	NO_x	coal/gas/~~WTDF~~/oil	~~1.53 lb/MMBTU~~ 4.9 lb/ton of clinker	671	2940	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	CO	coal/gas/~~WTDF~~/oil	3.01 lb/ton clinker	412	1807	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	VOC	coal/gas/~~WTDF~~/oil	0.1 lb/ton clinker	13.7	60	RMC - Data
ARMS #	Kiln/Cooler/Raw Mill	H_2SO_{4mist}	coal/gas/~~WTDF~~/oil	0.014 lb/ton clinker	1.92	8.4	AP - 42
~~ARMS #~~	~~Kiln/Cooler/Raw Mill~~	~~Beryllium~~	~~coal/gas/WTDF/oil~~	~~$6.6x10^{-7}$ lb/ton clinker~~	~~9.04E-05~~	~~0.000386~~	~~AP - 42~~
ARMS #	Kiln/Cooler/Raw Mill	Mercury	coal/gas/~~WTDF~~/oil	$2.4x10^{-6}$ lb/ton clinker	3.30E-03	0.014	AP - 42
ARMS #	Kiln/Cooler/Raw Mill	Lead	coal/gas/~~WTDF~~/oil	$7.5x10^{-5}$ lb/ton clinker	0.01	0.045	AP - 42
ARMS #	Kiln/Cooler/Raw Mill	VE	coal/gas/~~WTDF~~/oil	10% opacity			NSPS

ALLOWABLE OPERATING RATES

		Kiln/Cooler/Raw Mill
Hours of operation per year	Hours	8760
Kiln preheater feed rate ($kiln_{ph}$) *	TPH	220
Kiln Heat Input	MMBtu/hr	437
Clinker Production (1)	TPH	137
Cooler throughput rate	TPH	137

NOTES

(1) At a maximum design clinker production rate of 137 TPH and preheater feed rate of 220 TPH, utilizing a conversion factor of 0.60: (220 x 0.60 = 137).
(2) Fuel combustion as specified in Specific Condition No. B.5, and the protocols established by DERM. See also Specific Condition B.13.
(3) Compliance Units. This facility shall demonstrate compliance based on these standards.
(4) "Equivalent Emissions" are based on annual emissions at 8760 hrs/yr. The "Equivalent Emissions" are also listed for informational purpose and for PSD and recordkeeping tracking purposes.

Revised Table 2-1. Compliance Requirements.

FACILITY ID NUMBER: 0250014

Original DEP File No. 0250014-002-AC
Permit Modification No. 0250014-007-AC

Permittee:
Rinker Materials Corportion
Portland Cement Plant No. 2 and Associated Equipment

E.U. ID#	Description	Pollutant Name or parameter	Fuel(s) [1]	EPA/Reference Method/CMS *	Testing Time Frequency	Min. Compliance Test Duration	CMS * Compliance
ARMS #	Kiln/Cooler/Raw Mill	PM/PM_{10}	Oil/Coal /Gas/~~WTDF~~	5 or 201/201A	initial/annual [8]	3 one-hr run	
ARMS #	Kiln/Cooler/Raw Mill	VE	Oil/Coal/Gas/~~WTDF~~	9/COMS	initial/annual/COMS	3 one-hr run	No [4]
ARMS #	Kiln/Cooler/Raw Mill	SO_2	Oil/Coal/Gas/~~WTDF~~	CEMS	daily average	continuous	Yes [6]
ARMS #	Kiln/Cooler/Raw Mill	NOx	Oil/Coal/Gas/~~WTDF~~	CEMS	daily average	continuous	Yes [3]
ARMS #	Kiln/Cooler/Raw Mill	CO	Oil/Coal/Gas/~~WTDF~~	10 [5]	initial/annual	3 one-hr run	
ARMS #	Kiln/Cooler/Raw Mill	VOC	Oil/Coal/Gas/~~WTDF~~	25 or 25A [2]	Initial	3 one-hr run	Yes[2]
ARMS #	Kiln/Cooler/Raw Mill	H_2SO_4 mist	Oil/Coal/Gas/~~WTDF~~	8	Initial	3 one-hr run	
ARMS #	Kiln/Cooler/Raw Mill	Hg, Pb, Be	Oil/Coal/Gas/~~WTDF~~	29	Initial	3 one-hr run	
ARMS #	Fugitive sources	VE		9	Protocol [7]		
ARMS #	Minor Sources	VE		9	Initial/annual	3 one-hr run	

Notes:

[1] Initial compliance testing shall be conducted under all the scenarios this facility is planning to operate under. Specific condition B.13. Annual testing of emissions shall be conducted during the worst case scenario that this facility would normally operate under. Frequency of testing after initial compliance shall be determined by DERM. Fuels to be burned are specified in Specific Condition B.5.

[2] VOC emission shall be tested initially and annually to comply with the condition of this permit. ~~Thereafter, compliance will be assumed provided the CO allowable emission rate is reached~~. Annual RATA test results for the VOC CEMS may be used to demonstrate compliance in lieu of a separate annual source test.

[3] NO_x - The continuous emission monitoring system (CEMS) data shall be used for the Kiln for compliance requirement. The CEMS calibration and maintenance shall meet the applicable requirements of 40 CFR 60, Appendix B and Appendix F.

[4] Pursuant to 40 CFR 60, Subpart F, the kiln/cooler exhaust system shall be equipped with continuous opacity monitoring system (COMS) to record the opacity at the stack to indicate proper maintenance and operation. Monitoring of the opacity of emissions shall be demonstrated by COMS pursuant to 40 CFR 60.63. Notification and recordkeeping shall be in accordance with 40 CFR 60.7 and 40 CFR 60.65.

[5] Continuous process monitors for CO and/or O_2 to optimize combustion conditions for pollution control shall be part of the process.

[6] SO_2 - The continuous emission monitoring (CEMS) data shall be used for the Kiln compliance requirement. The CEMS calibration and maintenance shall meet the applicable requirements of 40 CFR 60, Appendix B and Appendix F.

[7] Protocol as approved by the Permitting Authority (DERM).

[8] Rinker has the option of using Method 5 if they stipulate that all of the PM is PM_{10}.

* CMS [=] compliance demonstrated by a continuous monitoring system: CEMS or COMS.

TECHNICAL EVALUATION

AND

PRELIMINARY DETERMINATION

CSR RINKER MATERIALS CORPORATION
MIAMI, DADE COUNTY, FLORIDA

Portland Cement Manufacturing Facility
Modernization and Expansion Project
Finalization of Fuel, Emissions and Monitoring Conditions

Permit No. 0250014-007-AC

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

September 28, 2001

I. APPLICANT NAME AND ADDRESS

CSR Rinker Materials Corporation
1200 NW 137th Avenue
Miami, Florida 33182

II. FACILITY INFORMATION

A. FACILITY LOCATION

CSR Rinker Materials Corporation (Rinker) recently modernized the existing Miami Cement plant by replacing the wet -process cement plant with a 1.2 million TPY clinker dry-process cement production line [137 ton of clinker per hour (TPH)] at its existing Miami cement facility.

This site is approximately 8.2 kilometers to the Everglades National Park, a Class I PSD Area, and in an ozone (O_3) maintenance area in Dade County.

B. FACILITY CLASSIFICATION CODE (SIC)

Major Group No. 32, Clay, Glass, and Concrete Products
Industry Group No. 324 Cement, Hydraulic
Industry No. 3241 Cement, Hydraulic

C. FACILITY CATEGORY

The Rinker Materials Corporation (Rinker) Miami Cement Plant directly emits more than 100 tons per year (TPY) of several regulated air pollutants and emits over 10 TPY of at least one hazardous air pollutant (HAP). Therefore it is classified as a "Major Source of Air Pollution or Title V Source," per the definitions in Rule 62-212.200, F.A.C.

This industry is listed in Table 212.400-1, "Major Facilities Categories", Section 62-212.400, F.A.C. Therefore, stack and fugitive emissions of over 100 TPY of carbon monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO_2), nitrogen oxides (NO_X), or particulate matter (PM/PM_{10}) characterize the existing installation as a Major Facility per the definitions in Rule 62-210.200, F.A.C. and subject to applicability review for the requirements of Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD).

Per Table 212.400-2, "Regulated Air Pollutants – Significant Emission Rates", modifications at the facility resulting in emissions increases greater than 40 TPY of NO_X or SO_2, 7 TPY of SAM, 25/15 TPY of PM/PM_{10}, 3 TPY of fluorides, 1200 pounds per year (lb/yr) of lead or 200 lb/yr of mercury require review per the PSD rules and a determination for Best Available Control Technology (BACT) per Rule 62-212.400, F.A.C.

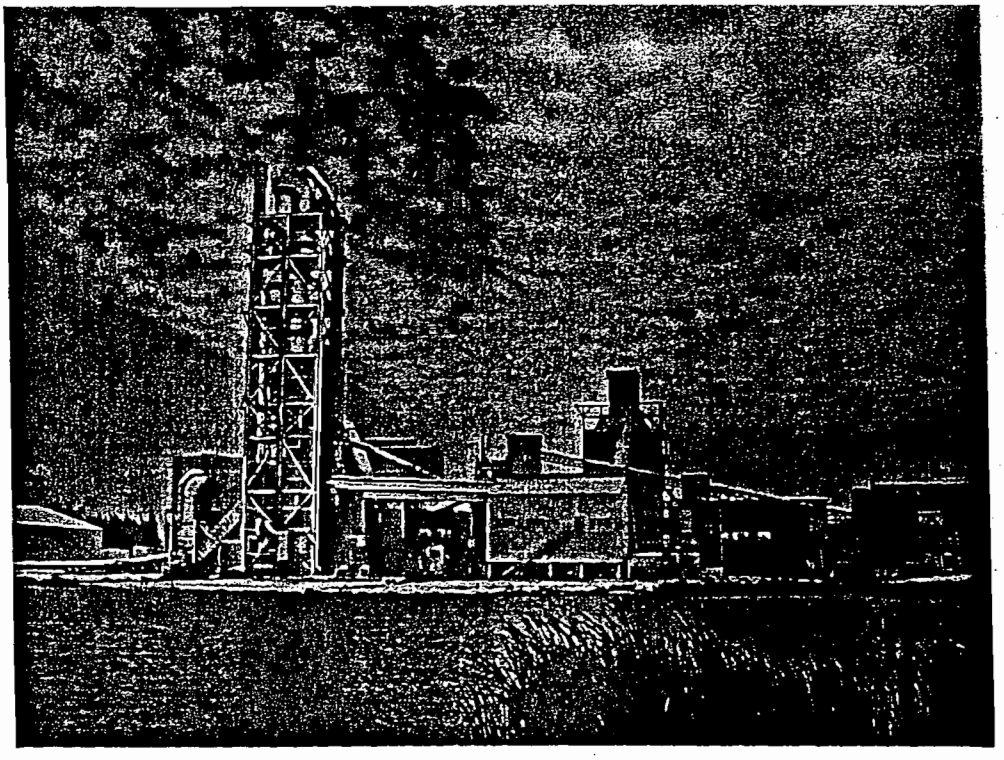
The approved Rinker modernization project was not subject to New Source Review including provisions for the Prevention of Significant Deterioration of air quality (PSD) because the modernized plant was expected to result in less overall air pollution than the existing plant. This is primarily due to the lower fuel requirements per unit of product characteristic of the dry processes.

III. MODERNIZATION PROJECT

The Department issued a permit to Rinker on September 11, 1997 to modify the existing wet process plant by incorporating the modern dry process technology including a preheater and precalciner along with indirect firing. The dry process preheater/precalciner (PH/PC) kiln is the most fuel-efficient cement pyroprocessing technology currently available. Thermal efficiencies will be improved with the PH/PC kiln and the amount of fuel combusted per ton of clinker produced is expected to be reduced

The modernized cement plant will produce up to 137 TPH of clinker (highest maintained rate over a day). The annual potential production rate will not exceed 1.2 million TPY of clinker. The major equipment will include a PH/PC kiln, a clinker cooler, raw mill, finish mill, silos, conveyers, and particulate control/dust collection and recycling equipment. The cement product will be stored in silos and shipped in bags or in bulk by rail or truck.

A more complete project and process description was provided in the Technical Evaluation and Preliminary Determination issued for the modernization project on June 23, 1997. Rinker completed basic construction of the dry process kiln line in Spring of 2000. Compliance tests were conducted during the second half of the year. Following is a photograph of the constructed dry process plant taken in late June 2001.



CSR Rinker Modernized Dry Process Cement Plant in Miami, Florida

IV. PERMIT EXTENSION REQUEST

The original construction permit provided for an expiration date of May 30, 1999. The permit was revised in 1999 to show an expiration date of September 30, 2000. The Department received a request to further extend the permit (until March 31, 2002) on September 8, 2000. The stated purpose of the extension was for consistency with a Proposed Title V Operation Permit and to conduct additional work to:

- Try out various raw materials to resolve production-limiting issues.
- Design and possibly install a chloride reduction system.
- Design and construct a tire/waste handling system.

The Department did not issue the extension at an early date because the Department lacked reasonable assurance that the facility would meet the volatile organic compound emissions limit of 0.1 pounds per ton of clinker and additional testing had not yet been conducted for certain other pollutants. By that time, the plant was producing cement, but there were a number of delays by Rinker in testing of volatile organic compounds (VOC) emissions that was originally scheduled for September 2000.

Compliance tests conducted for beryllium in December 2000 (received in May 2001) indicate emissions about 50 percent greater than permitted in terms of lb/ton of clinker. On February 28, 2001 the Department received the results of the VOC emission tests. These results indicate very marginal non-compliance based on the factor given in the permit for calculation of clinker production based on raw material input. Rinker subsequently provided information based on their calculations of the conversion factor of raw materials to clinker and reported the VOC emissions tests as marginally in compliance based on lb/ton of clinker.

At the request of Rinker, the Department did not act on the permit extension. Such requests were sent on Rinker's behalf on November 30, 2000, January 12, February 28, March 26, April 30, and May 24, 2001. Over the same period Rinker asked for some additional permit modifications and consolidated them in a single letter plus attachments dated June 14, 2001. On June 28, Rinker requested "the Department enter a further extension of time for taking action on the permit amendments until September 30, 2001.

The additional requests are to:

- Remove the beryllium limit.
- Adopt emission limit units and reporting requirements for sulfur dioxide and nitrogen oxides that are more consistent with the units for other pollutants from the same plant and the practice at other cement plants throughout the state.
- Propose an alternative to a Department initiative to include compliance assurance requirements for VOC.
- Concur with a Department initiative to require empirical raw materials to clinker conversion factors prior to conducting future tests.

V. PRESENT SITUATION

As of this time, all physical construction required to make cement at or near the permitted production limit is complete. No facilities have been installed to burn permitted supplementary fuels such as tires, sewage sludge, and non-hazardous solid wastes. A Title V Operation Permit with a Compliance Plan was issued in October 2000. Compliance testing has been conducted. Following are the results of tests for certain pollutants of interest to the Department.

Pollutant	Permit Limit	Result
SO_2	0.70 lb/mmBtu	0.01 lb/mmBtu (~0.03 lb/ton)
NO_X	1.53 lb/mmBtu	1.0 lb/mmBtu (~3 lb/ton clinker)
Beryllium	0.66×10^{-6} lb/ton clinker	1.16×10^{-6} lb/ton clinker
VOC	0.1 lb/ton clinker	~ 0.1 lb/ton clinker

VI. EVALUATION

The Department adopted emission limits in terms of lb/mmBtu for SO_2 and NO_X because the applicable requirements were given in these terms. These include the limits in Chapter 24 of the Miami-Dade County Code of 1.1 and 1.2 lb SO_2/mmBtu for liquid and solid fuels respectively. The permit limit was set at 0.70 lb SO_2/mmBtu to avoid PSD applicability as part of a netting calculation.

The SO_2 emissions are significantly lower than permitted. The reason is that the dry preheater/calciner process provides an opportunity for self-scrubbing of the exhaust gases by finely-divided lime. Therefore virtually all fuel sulfur is removed in this manner. The raw materials fed into the preheater apparently contain minimal sulfur (such as pyrites). Therefore SO_2 emissions from "roasting" in the upper stages of the preheater are minimal.

The Department has reasonable assurance that the project easily complies with the Miami-Dade ordinance and proposes to reset the permit limit to the "lb/ton of clinker" equivalent of 0.70 lb SO_2/mmBtu. The equivalent value is 2.23 lb SO_2/ton of clinker based on the emission limit of 306 lb/hour divided by the permitted clinker production limit of 137 tons per hour.

The NO_X emissions are roughly 60 percent of the permitted value and are roughly equal to levels expected by the Department for the type of kiln installed by Rinker (preheater/precalciner without staged combustion). The actual emissions are about half of the emission limit per the Department's Reasonable Available Control Technology (RACT) rule applicable to the cement industry of 2.0 lb NO_X/mmBtu. The previous wet process kilns were out of compliance with the mentioned RACT rule.

The permit limit is 1.53 lb NO_X/mmBtu. This was the limit needed to "net out" of PSD during the permitting of the modernization project and meet the RACT rule. The equivalent value is 4.9 lb NO_X/ton of clinker based on the emission limit of 671 lb/hour divided by the permitted clinker production limit of 137 tons per hour.

The Department concludes that that the kiln will comply with the applicable NO_x emission limits by complying with a limitation of 4.9 lb NO_x/ton of clinker. Furthermore on the basis of tests conducted, the Department has reasonable assurance that the unit complies with the NO_x emissions limits.

The beryllium emissions are greater than permitted by about 50 percent. The Department believes that for this type of kiln, raw materials and fuels, baghouses represent the proper technology to control beryllium emissions. The company installed a baghouse but accepted a low value to avoid PSD.

The Department recognizes that the EPA and the Department no longer regulate beryllium as a "PSD pollutant". The pollutant is now regulated under industry-specific rules pursuant to Title III of the Clean Air Act. The Maximum Achievable Control Technology rules applicable to cement kilns regulate beryllium at kilns that (unlike Rinker) burn hazardous waste.

For reference, an EPA study found that emissions of beryllium from 21 kilns that burn hazardous waste range from 0.05 to 2.2 ug/m^3 at 7 percent oxygen. The average is 0.59 ug/m^3. Emissions from three kilns that do not burn hazardous waste ranged from 0.2 to 0.31 ug/m^3 with an average of 0.27 ug/m^3.

Rinker reported that its emissions of beryllium were 0.37 ug/m^3 at 7% O_2. This level is close to the range of the three kilns that do not burn hazardous wastes. The Department will modify the permit accordingly.

Rinker conducted VOC tests several months after they planned to conduct them. The results are marginally out of compliance based on the raw materials to clinker conversion factor given in the permit. Without additional permit conditions, the Department does not have reasonable assurance that the kiln will operate in compliance with the limit or emit less VOC than required to "net out" of PSD.

Other tests indicated that the kiln is in compliance with the CO limitations. Because the VOC tests did not clearly show compliance, it can not be assumed that future compliance with the VOC limit can be demonstrated by reliance on the CO tests as surrogates.

Apparently VOC emissions have much to do with raw materials and not just incomplete fuel combustion. Raw materials use is much greater for the new kiln than the old ones based on clinker manufacturing capacity. Therefore it is not surprising that such an increase occurred. Additionally, Rinker plans to install a kiln bypass that will necessitate additional fuel use. It is not known how this will affect the lb VOC/hr or lb VOC/ton of clinker emitted.

In June, Rinker submitted to Miami-Dade DERM an updated version of the feed materials hydrocarbon monitoring plan previously submitted to the Department on April 6. DERM advised Rinker by letter dated July 25 that "quarterly testing, in conjunction with or separate from the raw material sampling and analysis, is also not sufficient to provide reasonable assurance of compliance with the VOC permit limits."

The Department agrees with DERM and notes that DERM is the compliance authority and the Title V permitting authority. Therefore the Department proposes installation of a continuous emission monitoring system (CEMS) for VOC. Such equipment was required by the Department following non-compliance by Florida Rock Industries (Alachua County) with a *more stringent* VOC limitation of 0.12 lb/ton of clinker. Additionally a VOC CEMS monitor is required for the Tarmac (Miami) modernization project to insure that PSD is not triggered. A VOC CEMS with real-time reporting to the Department and the Public is required at the Suwannee-American Cement project. A VOC CEMS will also be required at planned but unbuilt projects in Brooksville.

VII. SOLID WASTE FUELS

The original permit provided for burning of sewage sludge, tires, and certain non-hazardous solid wastes. Although the kiln started up in Spring of 2000, none of these wastes have been used as of September 2001.

At this time, Rinker is embarking on a project to construct the bypass to solve a problem caused by the buildup of certain chemical species in recirculating streams within the pyroprocessing system. These constituents tend to deposit on certain surfaces in the pyroprocessing equipment causing lower production and periodic shutdowns. Therefore Rinker is still engaged in solving technical production problems and not ready to construct the equipment to burn the additional solid waste fuels.

The approval to burn certain solid wastes was given based on the opinions of Rinker that it could do so in the new plant. This was probably based on experience burning tires at mid-kiln in the retired wet process kilns. The new dry process preheater calciner kiln cannot burn the quantity of tires originally envisioned by Rinker (40 percent by heat input) without substantial modifications.

For example, Florida Rock Industries is installing a multi-stage combustion calciner that will use tires as a reburn fuel for NO_X control. The company expects to be able to burn up to 15 percent tires under this configuration. Both Florida Rock and Suwannee-American believe they can only combust 40 percent tires by installing a tire gasification system.

As of this time, neither the Department nor DERM has received details regarding the tire handling and burning equipment. With the bypass project taking precedence, it is reasonable to conclude that tires cannot be burned at the facility for some time in the future.

Similarly there is no equipment to inject sewage sludge. Rinker advised that it does not actually wish to burn this material. Finally, there is no equipment to introduce diaper derived fuel or any other solid waste into the kiln. The Department will modify the permit to reflect the capability of the kiln as constructed. The permitted fuels will be the various allowed used fuel oils, coal, and petroleum coke.

The Department believes it is possible to burn some of the solid wastes following modification of the kiln. The removal of these waste fuels from the permit is without prejudice to Rinker and does not prohibit or discourage Rinker from applying for a permit to construct and install equipment to burn certain solid fuels. Any future requests should be directed to the Miami-Dade County Department of Environmental Resources Protection. It is noted that the County's Environmental Quality Control Board already approved a waiver request (to their Wellfield Rules) to allow these wastes at the facility.

VIII. PERMIT MODIFICATION

The Department intends to modify the permit as shown in the enclosed draft letter. The permit will be extended to March 31, 2002 for the purpose of installing the bypass and the VOC CEMS. Miami-Dade DERM will revise the Title V permit to comport with the revised construction permit as advised in the Notice of Final (title V) Permit dated October 31, 2000.

Miami-Dade DERM will process further non-PSD permits.