



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

July 3, 1997

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Scott Quaas
Environmental Manager
Tarmac America, Inc.
455 Fairway Drive
Deerfield Beach, Florida 33441

Re: Amendment of Permit No. 0250020-001-AC, PSD-FL-236
Tarmac Pennsuco Portland Cement Plant Slag Dryer

Dear Mr. Quaas:

The Department has reviewed Golder Associates's June 17 letter requesting revisions to Specific Condition No. A.8 of the referenced permit for a new slag dryer and baghouse to be built at Tarmac's Pennsuco Portland cement plant. The plant is located at 11000 N.W. 121 Way, Medley, Dade County. This request is acceptable and the permit is amended as follows:

- A.8 Except for the new slag dryer, PM emissions from the other processing equipment handling blast furnace slag shall not exceed the quantities listed in Table 1 (attached). Unconfined PM emissions from the yard shall be minimized by applying one or more of the following reasonable precautions:
- a) Paved parking and traffic areas shall be well maintained and kept free of particulate matter build-up. Water trucks or vacuum type sweeper(s) shall be used to clean the paved areas. Sweeper(s) shall be maintained and operated such that visible emissions from the sweeper(s) do not exceed 5% opacity.
 - b) Water sprinklers and wind breaks, enclosures, or covers shall be used when necessary to control unconfined particulate matter emissions from the yard, unpaved roads, and work areas.
 - c) Bulk Cement (railcar/truck) Loadout Unit 1, Bulk Cement (truck) Loadout Unit 2 and Transfer Pump Hopper (under Silos 10-12), equipped with Baghouses B-110, B-210, and B-323 respectively, exhaust particulate emissions to the interior of enclosed areas. Fugitive emissions shall be contained in this manner so as not to exceed 5% opacity from the vents, doors, etc.
 - d) ~~Water sprinklers and wind breaks, enclosures, or covers shall be used to control unconfined PM emissions from the yard.~~

A DERM license may be required for the slag storage operation.

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

Printed on recycled paper.

A person whose substantial interests are affected by this permit amendment may petition for an administrative hearing in accordance with Sections 120.569 and 120.57 F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, telephone: 850/488-9730, fax: 850/487-4938. Petitions must be filed within fourteen days of receipt of this permit amendment. A petitioner must 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 28-5.207 of the Florida Administrative Code.

A petition must contain the following information: (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by petitioner, if any; (e) A statement of the facts that the petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement identifying the rules or statutes that the petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take with respect to the action or proposed action.

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 permit amendment. 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 person whose substantial interests are affected by the Department's proposed permitting decision, may elect to pursue mediation by asking all parties to the proceeding to agree to such mediation and by filing with the Department a request for mediation and the written agreement of all such parties to mediate the dispute. The request and agreement must be filed in (received by) the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, by the same deadline as set forth above for the filing of a petition.

A request for mediation must contain the following information: (a) The name, address, and telephone number of the person requesting mediation and that person's representative, if any; (b) A statement of the preliminary agency action; (c) A statement of the relief sought; and (d) Either an explanation of how the requester's substantial interests will be affected by the action or proposed action addressed in this notice of intent or a statement clearly identifying the petition for hearing that the requester has already filed, and incorporating it by reference.

The agreement to mediate must include the following: (a) The names, addresses, and telephone numbers of any persons who may attend the mediation; (b) The name, address, and telephone number of the mediator selected by the parties, or a provision for selecting a mediator within a specified time; (c) The agreed allocation of the costs and fees associated with the mediation; (d) The agreement of the parties on the confidentiality of discussions and documents introduced during mediation; (e) The date, time, and place of the first mediation session, or a deadline for holding the first session, if no mediator has yet been chosen; (f)

The name of each party's representative who shall have authority to settle or recommend settlement; and (g) The signatures of all parties or their authorized representatives.

As provided in Section 120.573 F.S., the timely agreement of all parties to mediate will toll the time limitations imposed by Sections 120.569 and 120.57 F.S. for requesting and holding an administrative hearing. Unless otherwise agreed by the parties, the mediation must be concluded within sixty days of the execution of the agreement. If mediation results in settlement of the administrative dispute, the Department must enter a final order incorporating the agreement of the parties. Persons whose substantial interests will be affected by such modified final decision of the Department have a right to petition for a hearing only in accordance with the requirements for such petitions set forth above. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under Sections 120.569 and 120.57 F.S. remain available for disposition of the dispute, and the notice will specify the deadlines that then will apply for challenging the agency action and electing remedies under those two statutes.

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. 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.

This permit amendment is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rule 62-103.070, F.A.C. Upon timely filing of a petition or a request for an extension of time this permit amendment will not be effective until further order of the Department.

Mr. Scott Quass
Page 4
Tarmac America, Inc.

When the Order (Permit Amendment) is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Legal Office; 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 of appeal must be filed within 30 (thirty) days from the date this Notice is filed with the Clerk of the Department.

A copy of this letter shall be filed with the referenced permit and shall become a condition to that permit.

Sincerely,

A handwritten signature in black ink, appearing to read "Howard L. Rhodes". The signature is fluid and cursive, written over a light blue horizontal line.

Howard L. Rhodes, Director
Division of Air Resources
Management

Attachment: Golder Assoc. June 17, 1997 letter

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this AMENDMENT was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 7-3-97 to the person(s) listed:

Mr. Isidore Goldman, SED *
Mr. David Buff, Golder Assoc.
Mr. Pat Wong, DERM

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52(7), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Kym Ober
(Clerk)

7-3-97
(Date)

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

Fold at line over top of envelope to the right of the return address

Also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
- 2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Scott Quass, Enr. Mgr.
Tarmac America, Inc.
455 Fairway Dr.
Deerfield Bch, FL
33441

4a. Article Number
P 265 659 237

4b. Service Type
 Registered Certified
 Express Mail Insured
 Return Receipt for Merchandise COD

7. Date of Delivery
7-7

5. Received By: (Print Name)
RB

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)
X Ruthy Green

PS Form 3811, December 1994

Domestic Return Receipt

Thank you for using Return Receipt Service.

P. 265 659 237

US Postal Service
Receipt for Certified Mail
 No Insurance Coverage Provided.
 Do not use for International Mail (See reverse)

Sent to <i>Scott Quass</i>	
Street & Number <i>Tarmac America</i>	
Post Office, State, & ZIP Code <i>Deerfield Bch, FL</i>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date <i>0250020-001AC 7-3-97</i> <i>PSD-FL-236</i>	

PS Form 3800, April 1995

Florida Department of
Environmental Protection

Memorandum

TO: Howard Rhodes
~~Clair Fancy~~

THRU: Al Linero *Al Linero* 7/2

FROM: Willard Hanks *wmh*

DATE: June 26, 1997

SUBJECT: Tarmac America, Inc.
AIRS No. 0250020-001-AC, PSD-FL-236

Kim

Attached for approval and signature is a letter that amends the recently issued construction permit for a slag dryer to be located at Tarmac's Portland cement plant in Medley, Dade County.

The amendment makes minor changes to the requirements to control fugitive emissions from this operation.

I recommend approval and signature of the attached amendment letter.

Attachment

CHF/wh

Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, FL 32653-1500
Telephone (352) 336-5600
Fax (352) 336-6603



June 17, 1997

Mr. A. A. Linero, Administrator
New Source Review Section
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RECEIVED
JUN 18 1997
BUREAU OF
AIR REGULATION

Re: Tarmac Florida, Inc.
Slag Dryer
Final Permit No. 0250020-001-AC, PSD-FL-236

Dear Mr. Linero:

Tarmac has received the above referenced final construction permit for Tarmac's new slag dryer, issued by the Department on June 6, 1997. Upon review of the final permit, Tarmac has identified one specific condition that would be desirable to revise. The request is in regards to Specific Condition A.8 concerning the requirement to use reasonable precautions to minimize fugitive dust emissions. There are several concerns with the current wording of this condition, particularly in view of these conditions being carried over into the Title V application.

The second sentence of A.8, which reads "Unconfined PM emissions from the yard shall be minimized by applying the following reasonable precautions:". The concern with this statement is that the condition implies that all of the listed measures must be implemented. An agency or third party could contend that Tarmac was in violation of their permit if all the listed measures were not implemented.

Tarmac does in fact implement many of the measures listed; however, at any specific time, none or some of the measures are in use. This is because measures to minimize fugitive dust emissions are normally applied on an as needed basis, when visible emissions are observed.

Tarmac would like to retain its ability to determine the most appropriate measure(s) to implement at any specific time. Recommended wording for this condition which reflects this ability is presented below:

A.8 Except for the new slag dryer.... Unconfined PM emissions from the yard shall be minimized by applying one or more of the following reasonable precautions as necessary:

a) Paved parking and traffic.... Water trucks or vacuum type sweeper(s) shall be used to clean the paved areas. Sweeper(s) shall be maintained....

- b) Water sprinklers and wind breaks, enclosures, or covers shall be used as necessary to control unconfined PM emissions from the yard, unpaved roads, and other work areas.
- c) - no change
- d) - deleted

Thank you for consideration of these comments. Please call if you have any questions concerning this request.

Sincerely,

David A. Buff

David A. Buff, P.E.
Principal Engineer
Florida P.E. #19011
SEAL

DB/arz

cc: Al Townsend
Scott Quaas
Jim Alves

cc: W. Hawks, BAR
EPA
NPS
SED
Hade Co.



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION NOTICE OF FINAL PERMIT

In the Matter of an
Application for Permit

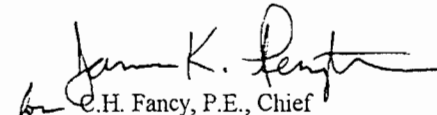
Mr. Scott Quaas, Environmental Manager
Tarmac America, Inc.
455 Fairway Drive
Deerfield Beach, Florida 33441

DEP File No.0250020-001-AC
PSD-FL-236

Enclosed is the FINAL Permit Number PSD-FL-236. This permit is issued for a new blast furnace slag dryer and baghouse pursuant to 40 CFR 52.21-Prevention of Significant Deterioration (PSD permit). This permit is issued pursuant to Section 403, Florida Statutes.

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Legal Office; 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 of Appeal must be filed within 30 (thirty) days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.


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

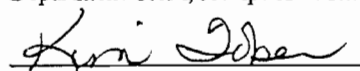
CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF FINAL PERMIT (including the FINAL permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 6-6-97 to the person(s) listed:

Mr. Scott Quaas, Tarmac America, Inc. *
Mr. David Buff, Golder Assoc.
Mr. Brian Beals, EPA
Mr. Isidore Goldman, SED
Mr. Pat Wong, DERM
Mr. John Bunyak, NPS

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52(7), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

 6-6-97
(Clerk) (Date)

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

FINAL DETERMINATION

Tarmac America, Inc.

Permit No.0250020-001-AC (PSD-FL-236)

Pennsuco Cement Plant

An Intent to Issue an air construction permit for Tarmac America, Inc.'s Pennsuco cement plant located in Medley, Dade County, Florida, was distributed on March 6, 1997. The Notice of Intent was published in the Miami Daily Business Review on March 26, 1997. Comments were submitted on the Department's Intent by the applicant's engineer in a letter dated May 13, 1997.

The applicant requested that references in the permit for the aggregate plant be removed from this permit because the new unit will not use the aggregate plant conveyors. References to the aggregate plant in Specific Condition A.1 were deleted from the permit.

The applicant requested that the stack parameter specifications from the application not be a requirement of this permit. The Department has revised Specific Condition A.3 to require only the reporting of significant changes in the stack dimensions.

The engineer for the applicant said the design was changed to eliminate the transfer point conveying the dried slag to the silos. As a result of this change, the conveyor would not have a baghouse. Specific Condition A.6 and the Best Available Control Technology determination were re-worded to reflect this change.

Other minor revisions were made to Specific Conditions A.4 (noted federal regulations the unit is subject to), A.9.d (edited table), and Table 1 (corrected process rate).

The final action of the Department will be to issue the permit as proposed except for the changes described above.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
- 2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

*Scott Guas, Enw. Mgr.
Iarnac America
455 Gateway Dr.
Deerfield Bch, FL
33441*

4a. Article Number

P 339 251 196

4b. Service Type

- Registered Certified
- Express Mail Insured
- Return Receipt for Merchandise COD

7. Date of Delivery

6/9/97

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)

X

[Signature]

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1994

Domestic Return Receipt

Thank you for using Return Receipt Service.

P 339 251 196

US Postal Service
Receipt for Certified Mail

No Insurance Coverage Provided.
Do not use for International Mail (See reverse)

Sender	<i>Scott Guas</i>
Street & Number	<i>Iarnac Amer</i>
Post Office, State, & ZIP Code	<i>Deerfield Bch, FL</i>
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	<i>6-6-97</i>
<i>0250020-001-AC PSD-FL-236</i>	

PS Form 3800, April 1995



Department of Environmental Protection

Lawton, Chiles
Governor

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

Virginia B. Wetherell
Secretary

PERMITTEE:

Tarmac America, Inc.
Pennsuco Cement Plant
455 Fairway Drive
Deerfield Beach, Florida 33441

FID No.	0250020
PSD No.	PSD-FL-236
Permit No.	0250020-001-AC
Expires:	July 1, 1998

Authorized Representative:
Mr. Scott Quaas
Environmental Manager

LOCATED AT:

Tarmac America, Inc., Pennsuco Cement Plant
Project: Blast Furnace Slag Processing Furnace
Standard Industrial Classification Code (SIC): 3241
Dade County, Florida

UTM: Zone 17; 562.8 km E ; 2861.7 km N
Latitude/ Longitude: 25°52'26" / 80°22'27"

STATEMENT OF BASIS:

This construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and the Florida Administrative Code (F.A.C.) Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297. The above named permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

Attached appendices and Tables made a part of this permit:

Appendix BD
Appendix GC
Table 1

BACT Determination
Construction Permit General Conditions
Future Maximum Particulate Emissions from Affected
Point Sources

Howard L. Rhodes, Director
Division of Air Resources
Management

SECTION I. FACILITY INFORMATION

PROJECT DESCRIPTION:

The permittee wishes to construct a Blast Furnace Slag Processing Operation consisting of a slag dryer at the existing Pennsuco Cement Plant located at 11000 N.W. 121 Way, Medley, Dade County, Florida 33178. The UTM coordinates of this site are Zone 17, 562.8 km E and 2861.7 km N.

Major components of the proposed blast furnace slag processing operation are a new 10,000 gallon fuel storage tank, a new 125 ton per hour (TPH) Gencor (or equivalent) dryer with a baghouse, and a new dry slag conveyor with a baghouse. The slag processing operation will use the portland cement plant's existing Clinker Silos Nos. 21, 22, 23, 26, 27, and 28 for dried slag storage, Cement Silos Nos. 7, 8, and 9 for the ground slag storage, No. 4 Finish Mill, and Bulk Cement Loadout Units Nos. 1 and 2.

The emission units shall be constructed and operated in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Additional county permits may be required by the Dade County Department of Environmental Resource Management (DERM) for some of the slag drying operations (fuel tanks, slag storage, etc.).

This permit replaces permit No. AC13-273887, PSD-FL-230 when the new dryer authorized by this permit begins operation.

PERMIT SCHEDULE:

- 03/26/97 Notice of Intent published in the Miami Daily Business Review
- 03/06/97 Issued Notice of Intent to issue Permit
- 01/22/97 Application deemed complete

The documents listed below are the basis of the permit. They are specifically related to this permitting action. These documents are on file with the Department.

1. Application received December 6, 1996.
2. DEP letter dated December 30, 1996.
3. Golder Assoc. letter dated January 20, 1997.
4. Golder Assoc. letter dated May 13, 1997.

SECTION II. EMISSION UNIT(S) SPECIFIC CONDITIONS

SUBSECTION A. SPECIFIC CONDITIONS:

General

- A.1 This permit incorporates all requirements of permit No. AO 13-238048 that are applicable to the No. 4 Finishing Mill; Clinker Silos Nos. 21, 22, 23, 26, 27, and 28; Cement Silos Nos. 7, 8, and 9; and Bulk Cement Loadout Units 1 and 2. This permit supersedes permit No. AC13-273887 (PSD-FL-230) when the Gencor dryer begins operation.

Construction

- A.2 The No. 2 fuel oil storage tank shall be constructed so that their maximum storage capacity is less than 40 cubic meters (10,568 gallons). A DERM license may be required for this fuel tank.
- A.3 Notify the Department if the blast furnace slag dryer stack is significantly changed from the proposed height of 30 feet and diameter of 4 feet. The stack shall be equipped with sampling facilities that comply with the requirements of Rule 62-297.345, F.A.C.

Federal Requirements

- A.4 The facility is subject to the requirements of 40 CFR 52.21, Prevention of Significant Deterioration of Air Quality, and 40 CFR 60, Subpart F, Standards of Performance for Portland Cement Plants.

Emission Limits

- A.5 The particulate matter emissions (total PM and PM₁₀) from the baghouse serving the slag dryer shall not exceed any of the following: 0.02 gr/dscf, 4.8 lbs/hr, 7.44 TPY, and 10 percent opacity. This standard may be modified if compliance tests show that the baghouse has an air to cloth ratio of 4.5:1 or larger and the filtering area is unable to meet a standard of 0.02 gr/dscf.
- A.6 Reasonable precautions shall be employed to minimize unconfined particulate matter emissions from the dry slag conveying system.
- A.7 Particulate matter emissions from the No. 4 Finishing Mill shall not exceed 0.01 gr/acf or 5 percent opacity.
- A.8 Except for the new slag dryer, PM emissions from the other processing equipment handling blast furnace slag shall not exceed the quantities listed in Table 1 (attached). Unconfined PM emissions from the yard shall be minimized by applying the following reasonable precautions:
- a) Paved parking and traffic areas shall be well maintained and kept free of particulate matter build-up. Vacuum type sweeper(s) shall be used to clean the paved areas. Sweeper(s) shall be maintained and operated such that visible emissions from the sweeper(s) do not exceed 5% opacity.
 - b) Water sprinklers shall be used when necessary to control unconfined particulate matter emissions from unpaved roads and work areas.

SECTION II EMISSION UNIT(S) SPECIFIC CONDITIONS

- c) Bulk Cement (railcar/truck) Loadout Unit 1, Bulk Cement (truck) Loadout Unit 2 and Transfer Pump Hopper (under Silos 10-12), equipped with Baghouses B-110, B-210, and B-323 respectively, exhaust particulate emissions to the interior of enclosed areas. Fugitive emissions shall be contained in this manner so as not to exceed 5% opacity from the vents, doors, etc.
- d) Water sprinklers and wind breaks, enclosures, or covers shall be used to control unconfined PM emissions from the yard.

A DERM license may be required for the slag storage operation.

A.9 Visible emissions from the blast furnace slag processing facility shall not exceed any of the following:

- a) Yard Storage/Handling Fugitive dust shall not be observed leaving the plant area.
- b) Each Clinker/Cement silo: 5% opacity
- c) Each Conveyor: 10% opacity
- d) No. 4 Finish Mill 5% opacity
- e) Bulk Cement Loadout Units 1 & 2: 10% opacity
- f) Slag dryer: 10% opacity

Operation Limitations

- A.10 The maximum wet blast furnace slag input rate to the dryer shall not exceed 125 TPH. The permittee shall install equipment or otherwise measure to the Department's satisfaction the process rate of the dryer and shall maintain records of the quantity of slag processed each day.
- A.11 The facility shall not process more than 300,000 tons of blast furnace slag during any calendar year.
- A.13 Only natural gas and low sulfur No. 2 fuel oil shall be burned in the blast furnace slag dryer. The sulfur content of the fuel shall not exceed 0.2 percent. The maximum heat input to the dryer shall not exceed 57.5 MMBtu/hr (approximately 410.6 GPH of oil or 57,000 CFH of gas). The maximum fuel consumption shall not exceed 1,281,000 GPY of oil or 178 MMCFPY of gas.
- A.14 The dryer shall not operate more than 3,120 hours per calendar year. The permittee shall maintain records of the hours of operation for the dryer each day.

Table 1. Future Maximum Particulate Emissions From Affected Point Sources

FACILITY ID NUMBER: 0250020

Permittee:

Permit No.: 0250020-001-AC, PSD-FL-236

Tarmac America, Inc., Pennsuco Cement Plant

E.U. ID#	Emission Unit/ Point	Emission Point ID	Control Equip. Type	Maximum Process Rate (TPH)	Air Flow Rate (CFM) ^a	PM/PM10 Emission Factor	PM/PM10 Emissions		
							(lb/hr)	(hr/yr)	(TPY)
EU 1	Slag Dryer	SLAG	Baghouse	125.0	34,100	0.02 gr/acf	5.75	3,120	9.12
EU 2	Clinker Handling System No. 3								
	Conveyor/Bucket Elevator	K-347	Baghouse	125.0	5,000	0.01 gr/acf	0.43	8,760	1.88
	Conveyor/Bucket Elevator	K-447	Baghouse	125.0	5,000	0.01 gr/acf	0.43	8,760	1.88
EU 2	Clinker Storage Silos								
	Clinker Silos 21,22,23,26,27,28	K-633	Baghouse	237.5	1,500	0.01 gr/acf	0.13	8,760	0.56
EU 3	Finish Mill #4								
	Ball mill/mill sweep	F-430	Baghouse	125.0	30,000	0.01 gr/acf	2.57	8,760	11.26
	Belt conveyor/separator/cement	F-432	Baghouse	125.0	17,000	0.01 gr/acf	1.46	8,760	6.38
	Clinker/gypsum conveyors	F-603	Baghouse	125.0	8,000	0.01 gr/acf	0.69	8,760	3.00
	Clinker/gypsum conveyors	F-604	Baghouse	125.0	8,000	0.01 gr/acf	0.69	8,760	3.00
	Clinker/gypsum conveyors	F-605	Baghouse	125.0	4,000	0.01 gr/acf	0.34	8,760	1.50
EU 4	Cement Storage Silos 1-9								
	Cement Silos 7-9	F-512	Baghouse	125.0	10,000	0.01 gr/acf	0.86	8,760	3.75
EU 4	Bulk Cement Loadout Units 1 & 2								
	Railcar/Truck Unit 1	B-110	Baghouse	250.0	3,000	0.01 gr/acf	0.26	8,760	1.13
	Truck Unit 2	B-210	Baghouse	250.0	3,000	0.01 gr/acf	0.26	8,760	1.13
						TOTALS	13.87		44.59

Note a: Airflow reflects dscfm

SECTION II. EMISSION UNIT(S) SPECIFIC CONDITIONS

Compliance Determination

- A.15 Compliance with the emission limits in this permit shall be determined prior to the expiration date of this construction permit and annually thereafter by the following referenced methods as specified in 40 CFR 60, Appendix A (July 1, 1994), or by other test methods with prior Department approval:
- a) PM₁₀ - EPA Methods 1, 2, 3, 4, and 5 (assuming all PM is PM₁₀).
 - b) Visible Emissions - EPA Method 9. The visible emissions test shall be conducted concurrently with any required PM test on the facility.
- A.16 Compliance testing of emissions from the slag dryer shall be conducted with the dryer operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then sources may be tested at less that capacity; in this case subsequent source operation is limited to 110 percent 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 15 consecutive days for the purpose of additional compliance testing to regain the permitted capacity in the permit.
- A.17 The permittee shall notify DERM at least fifteen (15) days prior to any compliance testing required by this permit or other regulations in accordance with Rule 62-297.340(1)(i), F.A.C.
- A.18 Copies of the test report(s) shall be submitted to DERM within forty-five (45) days of completion of testing in accordance with Rule 62-297.450(3)(b), F.A.C.

Record Keeping and Reporting Requirements

- A.19 The permittee shall maintain a daily log of the actual hours of dryer operation, quantity of slag processed, and fuel consumed by the slag dryer.
- A.20 An annual operation report shall be submitted to DERM by March 1 of each calendar year pursuant to Rule 62-210.370(2), F.A.C.
- A.21 The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation prior to 60 days before the expiration of the permit (Rule 62-4.090, F.A.C.).
- A.22 A timely application for a Title V operation permit must be submitted to DERM by the date required in Rule 62-213.420, F.A.C.

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

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

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

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

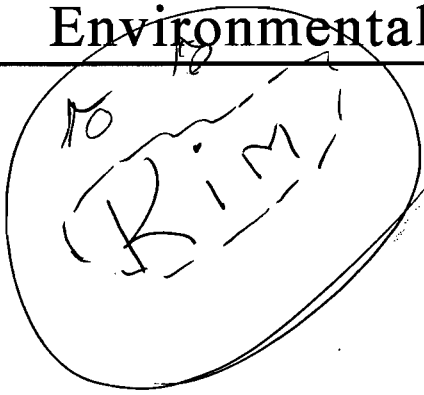
APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

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

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

Memorandum

Florida Department of
Environmental Protection



TO: Howard Rhodes
THRU: Clair Fancy *[Signature]*
Al Linero
FROM: Willard Hanks *[Signature]*
DATE: May 23, 1997
SUBJECT: Tarmac Pennsuco Plant
Blast Furnace Slag Facility

Attached for your approval and signature is a construction permit and Best Available Control Technology determination for a new blast furnace slag unit at Tarmac's Pennsuco Portland cement facility located in Medley, Dade County. This unit will replace one recently permitted at this facility that did not meet the performance goals of the permittee.

The proposed unit will use a new dryer and baghouse. It will have higher emissions than the one it is replacing. The proposed unit is subject to PSD. I believe the BACT for the dryer baghouse should be lower than the applicant proposed (0.02 versus 0.04 gr/dscf). This position is supported by EPA's evaluation of the application.

The applicant submitted comments on the Department's Intent to issue this permit. Their comments resulted in minor revisions to the draft permit as discussed in the Final Determination. None of the changes are considered significant.

I recommend your approval and signature of the construction permit.

WH/kt

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

Blast Furnace Slag Processing Operation with Slag Dryer
Tarmac America, Inc.
PSD-FL-236 and 0250020-001-AC
Medley, Dade County

A process description is included in the Technical Evaluation and Preliminary Determination.

Following is the BACT determination proposed by the applicant:

Tarmac America, Inc. proposes to construct a blast furnace slag processing operation consisting of a slag dryer and baghouse at the Pennsuco Cement Plant in Medley, Dade County. The new dryer will replace the one recently built under permit No. PSD-FL-230. Major components of the proposed slag processing operation are a fuel storage tank, a new 125 TPH slag dryer/baghouse, and a dried slag conveying system. The slag processing system will use the existing clinker and cement storage silos, the No. 4 Finishing Mill, and Bulk Cement Loadout Units Nos. 1 and 2.

The slag processing operation will emit particulate matter (PM and PM₁₀) and the products of combustion of No. 2 fuel oil and natural gas. The emission limits requested by the applicant from the slag handling operation would result in a net emissions increase of 41.1 TPY for PM, 39.9 TPY for PM₁₀, 18.19 TPY for SO₂, 12.81 TPY for NO_x, and smaller quantities (less than the significant emissions rates) for CO, VOC, sulfuric acid mist, total reduce sulfur, lead, mercury, fluorides, asbestos, and vinyl chloride. The requested increase in allowable emissions of PM and PM₁₀ are above the significant emissions rates of 25 and 15 TPY, respectively. The proposed slag processing operation is subject to the Prevention of Significant Deterioration (PSD) regulations and the allowable emissions of PM and PM₁₀ for the slag dryer are set by a BACT determination. The existing Portland cement processing equipment (Clinker and Cement Silos, Conveyers and Finishing Mill) are not subject to this BACT determination because the equipment was capable of accommodating blast furnace slag without a capital expenditure.

DATE OF RECEIPT OF A BACT APPLICATION

December 6, 1996

BACT REQUESTED BY THE APPLICANT

The applicant proposed the use of a baghouse with a 4.5:1 air/cloth ratio to control the emissions from the slag dryer. The requested PM emission standard is 0.04 gr/dscf. The applicant proposed to lower this standard if tests on the constructed facility showed it would consistently meet a lower limit.

BACT DETERMINATION PROCEDURE

In accordance with Rule 62-212.410, F.A.C., this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department of Environmental Protection (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:

- (a) Any Environmental Protection Agency determination of BACT pursuant to 40 CFR 52.21, 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),
- (b) All scientific, engineering, and technical material and other information available to the Department,
- (c) The emission limiting standards or BACT determinations of any other state,

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

(d) 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 is to determine for the emission unit in question 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 infeasible 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.

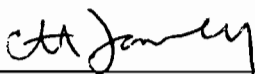
BACT DETERMINED BY THE DEPARTMENT

The dryer is a source of particulate matter emissions. The emissions of particulate matter will be controlled by a baghouse. The Department considers a properly designed baghouse to be the appropriate air pollution control device for this source. The BACT Clearinghouse Document does not list a BACT determination for particulate matter emissions from a blast furnace slag dryer. The Department notes that baghouses controlling other sources handling similar inert solid material (phosphate rock, limestone, etc.) are able to meet a particulate matter emission limit of 0.02 grain per dry standard cubic foot (gr/dscf). The Department also notes that the application states that the particulate matter emissions from the No. 4 Finish Mill would be 0.01 grain per actual cubic foot. Allowing for the temperature and moisture content of the air leaving the finishing mill, the 0.01 gr/acf is approximately equal to 0.02 gr/dscf. The Department has determined that BACT for the blast furnace slag dryer is the use of a properly designed baghouse having an air to cloth ratio of 4.5:1 or larger filtering area. The Department believes the baghouse can meet a PM emission standard of 0.02 gr/dscf and 10 percent opacity. The Department will adjust this standard if tests on the properly maintained and operated baghouse having an air to cloth ratio of 4.5:1 or larger filtering area serving the slag dryer shows it cannot meet this standard.

DETAILS OF THE ANALYSIS MAY BE OBTAINED BY CONTACTING:


Willard Hanks, Permit Engineer
A. A. Linero, P.E., Administrator, NSR Section
Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RECOMMENDED BY:


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

June 3, 1997
Date

APPROVED BY:


Howard L. Rhodes, Director
Division of Air Resources
Management

June 4, 1997
Date

Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, FL 32653-1500
Telephone (352) 336-5600
Fax (352) 336-6603



May 13, 1997

Mr. A. A. Linero, Administrator
New Source Review Section
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RECEIVED
MAY 14 1997
BUREAU OF
AIR REGULATION

RE: Tarmac Florida, Inc.
Slag Dryer
Draft Permit No. 0250020-001-AC, PSD-FL-236

Dear Mr. Linero:

Presented in this correspondence are comments concerning the draft construction permit for Tarmac's new slag dryer. The draft permit was issued by the Department on March 3, 1997. The comments are presented in the same order as the various sections of the draft permit.

Technical Evaluation and Preliminary Determination

page 1 of 3: I.C. Project - Please note that Tarmac has slightly modified the proposed location of the new slag dryer such that only one conveyor will be required from the dryer to the existing clinker handling system. As a result of this, the baghouse serving the conveyor transfer point will no longer be required. Therefore, this emission point should be eliminated from the construction permit. A revised emission unit form for the slag dryer is attached, as well as two revised tables from Attachment A of the application, and a revised plot plan and flow diagram reflecting these changes. The changes result in a decrease in potential emissions from the slag dryer system.

Draft Permit

Page 3 of 5: A.1. - The reference to permit no. AC13-234568 should be deleted from this condition. This permit is for the aggregate plant, and was relevant to the original slag dryer construction permit, when the slag dryer was being located in the aggregate plant and using aggregate plant conveyors. Now the slag dryer is located in the cement plant, and none of the aggregate plant conveyors will be utilized for the dried slag.

Page 3 of 5: A.3. - The basis for requiring a minimum stack height and maximum stack diameter for the dryer are questioned. Although Tarmac is planning on a stack height of at least 30 feet, the actual stack diameter could potentially be larger than 4 feet. However, such a change would not affect emissions and would minimally affect atmospheric dispersion. It is requested that this condition be deleted.

Page 3 of 5: A.4. - PSD is a preconstruction review program. It is not clear how the slag operation can be operated so that it can comply with the PSD requirements.

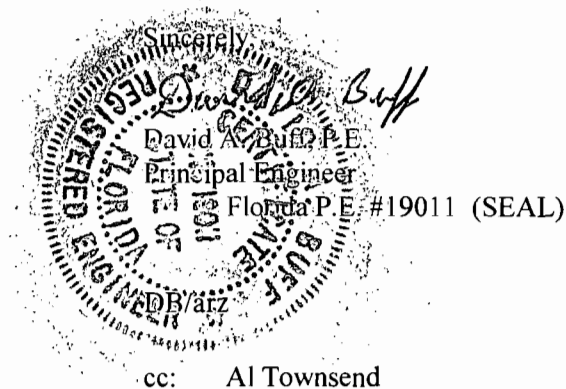
A.A. Linero
Page 2
May 13, 1997

Page 3 of 5: A.6. - The slag conveyor transfer point and associated baghouse has been removed from the project. Therefore, this condition should be deleted.

Page 4 of 5: A.9.d. - The opacity limit should be shifted to the right to align with the other opacity limits shown in this condition.

Table 1: The dry slag conveying system emission point should be removed from the table. In addition, the following maximum process rate for the slag drier should be 125.0 TPH.

Thank you for consideration of these comments. Please call if you have any questions concerning this information.



cc: Al Townsend
Scott Quass
Jim Alves
File (2)

cc: W. Hanks, BAR
SED
Dade Co
NPS
EPA

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

**A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)****Type of Emissions Unit Addressed in This Section**

1. Regulated or Unregulated Emissions Unit? Check one:

] 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.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

] 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.

**B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)**

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Slag Dryer / Conveying Sys., Storage Pile & #2 Fuel Oil Tank		
2. Emissions Unit Identification Number: <input checked="" type="checkbox"/> No Corresponding ID <input type="checkbox"/> Unknown		
3. Emissions Unit Status Code: C	4. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Emissions Unit Major Group SIC Code: 32
6. Emissions Unit Comment (limit to 500 characters): Fuel oil tank will be 10,000 gallons capacity, and not subject to NSPS.		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters): Fabric Filter
2. Control Device or Method Code: 16

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)**

Emissions Unit Details

1. Initial Startup Date:		
2. Long-term Reserve Shutdown Date:		
3. Package Unit: Manufacturer:	Model Number:	
4. Generator Nameplate Rating:	MW	
5. Incinerator Information:		
	Dwell Temperature:	°F
	Dwell Time:	seconds
	Incinerator Afterburner Temperature:	°F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	57	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:	125	tons/hr
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/yr	3,120 hours/yr

**D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)**

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-296.320(4)(a) Process Weight Table
62-296.320(4)(b) Visible Emissions

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: EU08	
2. Emission Point Type Code: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): Slag Dryer; Slag handling and storage operations	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code: <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W	
6. Stack Height:	30 feet
7. Exit Diameter:	4 feet
8. Exit Temperature:	300 °F

9. Actual Volumetric Flow Rate:	44,486 acfm
10. Percent Water Vapor:	10 %
11. Maximum Dry Standard Flow Rate:	27,820 dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates:	
Zone:	East (km): North (km):
14. Emission Point Comment (limit to 200 characters):	
<p>Stack data representative of slag dryer.</p> <p style="text-align: center;">a</p>	

2

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Material Products; Cement Manufacturing Wet Process; Raw material grinding and drying	
2. Source Classification Code (SCC): 3-05-006-13	
3. SCC Units: tons cement produced	
4. Maximum Hourly Rate: 125	5. Maximum Annual Rate: 300,000
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): Raw material is blast furnace slag. Maximum rates reflect slag throughput.	

Segment Description and Rate: Segment 2 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Mineral Products; Fuel-Fired Equipment; Process Heaters; Distillate Oil	
2. Source Classification Code (SCC): 3-05-900-01	
3. SCC Units: 1000 gallons burned	
4. Maximum Hourly Rate: 0.41	5. Maximum Annual Rate: 1,281
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 0.2	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 140	
10. Segment Comment (limit to 200 characters): No. 2 fuel oil burning in slag dryer.	

**F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)**

Segment Description and Rate: Segment 3 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Material Products: Fuel-Fired Equipment; Process Heaters Natural Gas	
2. Source Classification Code (SCC): 3-05-900-03	
3. SCC Units: Million Cubic Feet	
4. Maximum Hourly Rate: 0.057	5. Maximum Annual Rate: 179
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 1,000	
10. Segment Comment (limit to 200 characters): Maximum Annual Rate = 224.6 (rounded to 225). Natural gas burning in slag dryer.	

Segment Description and Rate: Segment 4 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Petroleum Product Storage - Fixed Roof Tanks. Distillate Fuel #2 - Working Loss.	
2. Source Classification Code (SCC): 4-03-010-21	
3. SCC Units: 1000 gallons throughput	
4. Maximum Hourly Rate: 0.41	5. Maximum Annual Rate: 1,281
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 5 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Petroleum Product Storage - Fixed Roof Tanks. Distillate Fuel #2 - Breathing Loss	
2. Source Classification Code (SCC): 4-03-010-19	
3. SCC Units: 1,000 gallons	
4. Maximum Hourly Rate:	5. Maximum Annual Rate: 10
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

Segment Description and Rate: Segment of

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

**G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	016		EL
PM10	016		EL
SO2			NS
NOx			NS
CO			NS

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)****Pollutant Detail Information:**

1. Pollutant Emitted: PM		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	9.5 lb/hour	14.9 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
[]1 []2 []3 _____ to 1.775 tons/yr		
6. Emission Factor:		
Reference: See Attachment A		
7. Emissions Method Code:		
[x]0 []1 []2 []3 []4 []5		
8. Calculation of Emissions (limit to 600 characters):		
Slag Dryer: $0.04 \text{ gr/dscf} \times 27,820 \text{ dscfm} \times 60 \text{ min/hr} \div 7000 \text{ gr/lb} = 9.54 \text{ lb/hr}$; $9.54 \text{ lb/hr} \times 3120 \text{ hr/yr} \times \text{ton}/2000 \text{ lb} = 14.9 \text{ TPY}$. Fugitive emissions: estimated in Table 3-2, see Attachment A.		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		
Slag dryer is limited to 3,120 hours per year. Potential emissions above do not include fugitives.		

Emissions Unit Information Section 1 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.04 gr/dscf		
4. Equivalent Allowable Emissions:	9.54 lb/hour	14.9 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 9 and Method 5		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Proposed BACT limit for slag dryer.		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**Pollutant Detail Information:**

1. Pollutant Emitted: PM10	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions:	9.5 lb/hour 14.9 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive/Other Emissions: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to <u>0.625</u> tons/yr	
6. Emission Factor: Reference: See Attachment A	
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): Slag Dryer: 0.04 gr/dscf x 27,820 dscfm x 60 min/hr ÷ 7000 gr/lb = 9.54 lb/hr; 9.54 lb/hr x 3120 hr/yr x ton/2000 lb = 14.9 TPY. Fugitive emissions are estimated in Table 3-2, Attachment A.	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Slag dryer is limited to 3,120 hours per year. Potential emissions above do not include fugitives.	

Emissions Unit Information Section 1 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.04 gr/dscf		
4. Equivalent Allowable Emissions:	9.54 lb/hour	14.9 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 9 and Method 5		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Proposed BACT limit for slag dryer.		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Pollutant Detail Information:

1. Pollutant Emitted: SO2		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	11.7 lb/hour	18.2 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr		
6. Emission Factor:		142 (S) lb/1000 gal
Reference: AP-42		
7. Emissions Method Code: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): 410.6 gal/hr x 142(0.2) lb/1000 gal = 11.7 lb/hr; 11.7 lb/hr x 3,120 hr/yr x ton/2000 lb = 18.2 TPY		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Slag dryer is limited to 3,120 hours per year.		

Emissions Unit Information Section 1 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)****Pollutant Detail Information:**

1. Pollutant Emitted: NOx		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	8.21 lb/hour	12.8 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
[] 1 [] 2 [] 3 _____ to _____ tons/yr		
6. Emission Factor:		20 lb/1000 gal
Reference: AP-42		
7. Emissions Method Code:		
[] 0 [] 1 [] 2 <input checked="" type="checkbox"/> 3 [] 4 [] 5		
8. Calculation of Emissions (limit to 600 characters):		
410.6 gal/hr x 20 lb/1000 gal = 8.21 lb/hr; 8.21 lb/hr x 3,120 hr/yr x ton/2000 lb = 12.8 TPY		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		
Slag dryer is limited to 3,120 hours per year.		

Emissions Unit Information Section 1 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: CO		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	21 lb/hour	3.2 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
[]1 []2 []3 _____ to _____ tons/yr		
6. Emission Factor:		5 lb/1000 gal
Reference: AP-42		
7. Emissions Method Code:		
[]0 []1 []2 <input checked="" type="checkbox"/> 3 []4 []5		
8. Calculation of Emissions (limit to 600 characters):		
410.6 gal/hr x 5 lb/1000 gal = 2.05 lb/hr; 2.05 lb/hr x 3,120 hr/yr x ton/2000 lb = 3.2 TPY		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		
Slag dryer is limited to 3,120 hours per year.		

Emissions Unit Information Section 1 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)**

Visible Emissions Limitations: Visible Emissions Limitation 1 of 2

1.	Visible Emissions Subtype: VE20
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: 20 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters): Rule 62-296.320(4)(b) - Applicable to Slag Dryer and Storage and Conveying System.

Visible Emissions Limitations: Visible Emissions Limitation 2 of 2

1.	Visible Emissions Subtype: VE10
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: 10 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters): 40 CFR 60, Subpart F, Section 60.62(c) - Applicable to Conveyor Transfer Points.

**J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)**

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [] Rule [] Other	
4. Monitor Information: Monitor Manufacturer: Model Number:	Serial Number:
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [] Rule [] Other	
4. Monitor Information: Monitor Manufacturer: Model Number:	Serial Number:
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT
TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)**

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

-] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
-] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.
-] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.
-] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
-] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.
- The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.
- None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:		
	PM	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E <input type="checkbox"/> Unknown
	SO ₂	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E <input type="checkbox"/> Unknown
	NO ₂	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E <input type="checkbox"/> Unknown
4.	Baseline Emissions:		
	PM	0 lb/hour	0 tons/year
	SO ₂	0 lb/hour	0 tons/year
	NO ₂		0 tons/year
5.	PSD Comment (limit to 200 characters):		

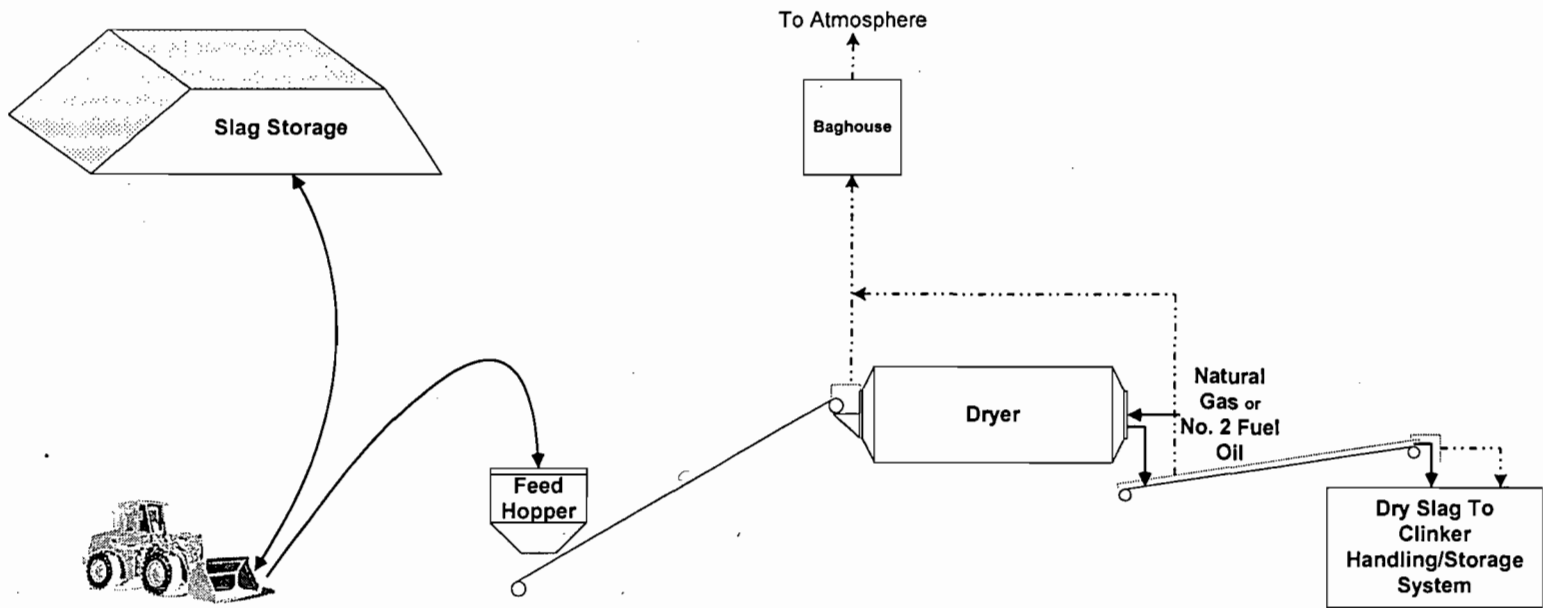
**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)**

Supplemental Requirements for All Applications

1.	Process Flow Diagram	<input checked="" type="checkbox"/> Attached, Document ID: <u>Att. A, Fig 2-3</u>	<input type="checkbox"/> Waiver Requested
		<input type="checkbox"/> Not Applicable	
2.	Fuel Analysis or Specification	<input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment A</u>	<input type="checkbox"/> Waiver Requested
		<input type="checkbox"/> Not Applicable	
3.	Detailed Description of Control Equipment	<input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment A</u>	<input type="checkbox"/> Waiver Requested
		<input type="checkbox"/> Not Applicable	
4.	Description of Stack Sampling Facilities	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
		<input checked="" type="checkbox"/> Not Applicable	
5.	Compliance Test Report	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
		<input type="checkbox"/> Previously Submitted, Date: _____	
6.	Procedures for Startup and Shutdown	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
7.	Operation and Maintenance Plan	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
8.	Supplemental Information for Construction Permit Application	<input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment A</u>	<input type="checkbox"/> Not Applicable
9.	Other Information Required by Rule or Statute	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Acid Rain Permit Application (Hard Copy Required) <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable



Process Flow Legend	
Solid/Liquid	—————>
Gas	- - - - ->

FIGURE 2-3
Slag Dryer -- Re-plant
Process Flow Diagram
 rev1.0

FACILITY:		
Pennsuco Cement		
ID #	FacID #	DATE
0250020	FL007-04	MAY 1997

Tarmac 

Tarmac America, Inc.
 455 Fairway Drive
 Deerfield Beach, FL 33441

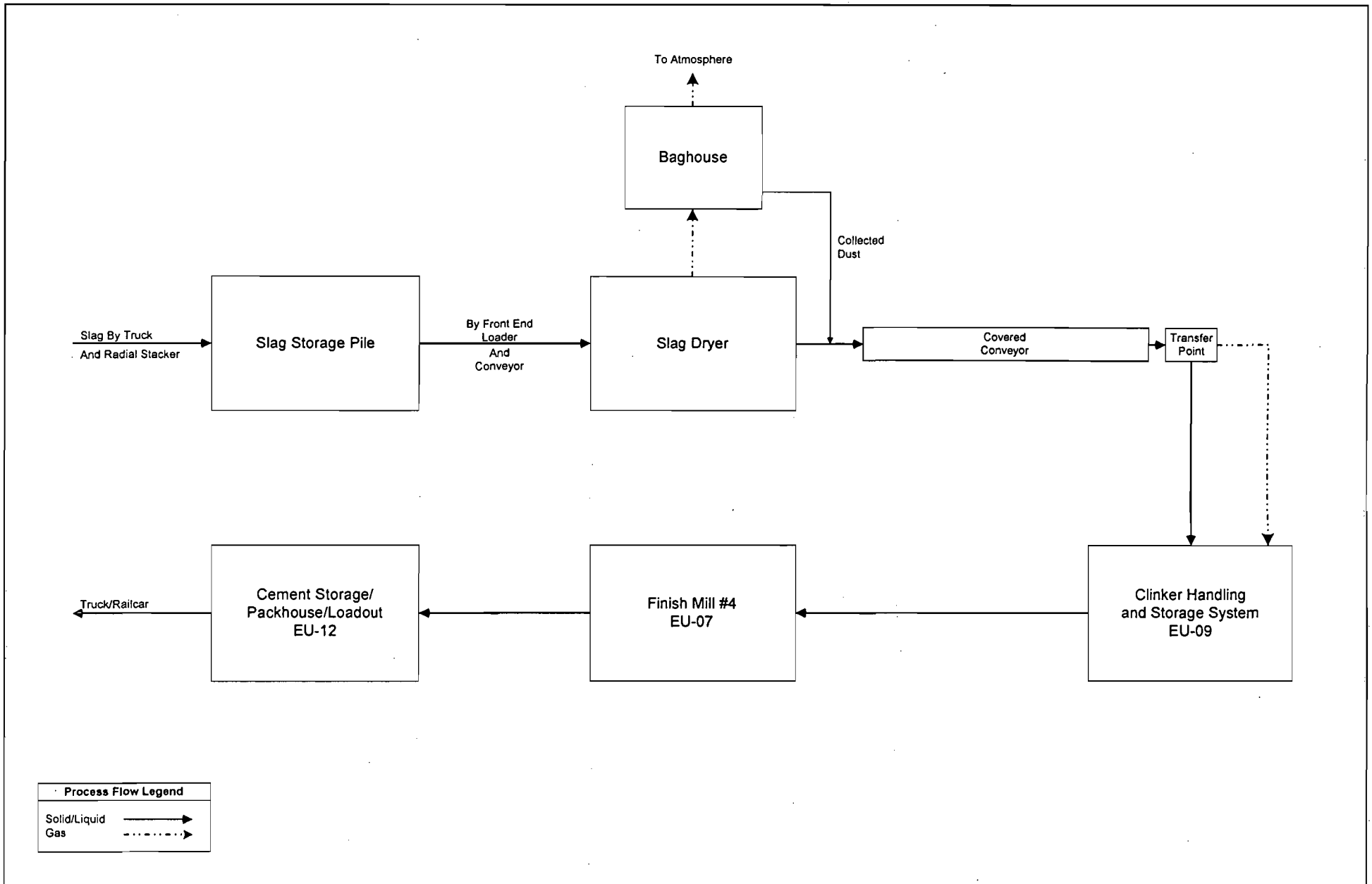


FIGURE 2-4
Slag Dryer -- Re-plant
Process Flow Diagram
 rev1.0

FACILITY: Pennsuco Cement		
ID # 0250020	FacID # FL007-04	DATE MAY 1997

Tarmac

Tarmac America, Inc.
 455 Fairway Drive
 Deerfield Beach, FL 33441

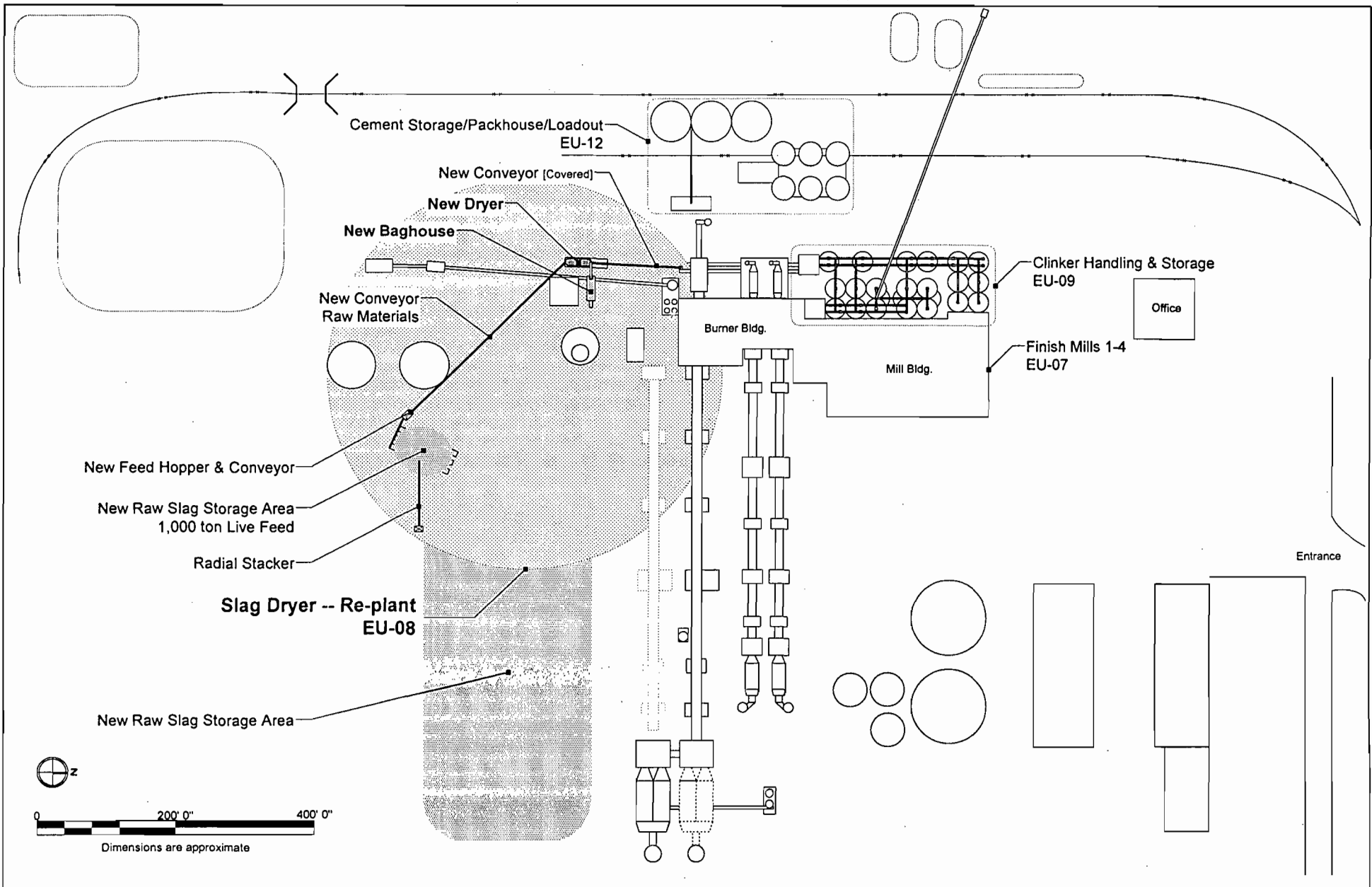


FIGURE 2-2
Slag Dryer - Re-plant
Facility Plot Plan
 rev1.0

FACILITY: Pennsuco Cement		
ID # 0250020	FacID # FL007-04	DATE MAY 1997

Tarmac 
 Tarmac America, Inc.
 455 Fairway Drive
 Deerfield Beach, FL 33441

Table 3-4. Future Maximum Particulate Emissions From Affected Point Sources, Tarmac America, Inc. (Revised 5/12/97)

Application		Emission Point ID	Control Equipment Type	Maximum Process Rate (TPH)	Air Flow Rate (cfm)	PM/PM10 Emission Factor	PM/PM10 Emissions		
Unit ID	Emission Unit/Point						(lb/hr)	(hr/yr) ^a	(TPY)
EU 1	Slag Dryer	SLAG	Baghouse	125	27,820(a)	0.04 gr/dscf	9.54	3,120	14.88
EU 2	<u>Clinker Handling System No. 3</u>								
	Conveyor/Bucket Elevator	K-347	Baghouse	125	5,000	0.01 gr/acf	0.43	8,760	1.88
	Conveyor/Bucket Elevator	K-447	Baghouse	125	5,000	0.01 gr/acf	0.43	8,760	1.88
EU 2	<u>Clinker Storage Silos</u>								
	Clinker silos 21, 22, 23, 26, 27 & 28	K-633	Baghouse	212.5	1,500	0.01 gr/acf	0.13	8,760	0.56
EU 3	<u>Finish Mill #4</u>								
	Ball mill/mill sweep	F-430	Baghouse	150	30,000	0.01 gr/acf	2.57	8,760	11.26
	Belt conveyor/separator/cement pump	F-432	Baghouse	150	17,000	0.01 gr/acf	1.46	8,760	6.38
	Clinker/gypsum conveyors	F-603	Baghouse	150	8,000	0.01 gr/acf	0.69	8,760	3.00
	Clinker/gypsum conveyors	F-604	Baghouse	150	8,000	0.01 gr/acf	0.69	8,760	3.00
	Clinker/gypsum conveyors	F-605	Baghouse	150	4,000	0.01 gr/acf	0.34	8,760	1.50
EU 4	<u>Cement Storage Silos 1-9</u>								
	Cement Silos 7-9	F-512	Baghouse	150	10,000	0.01 gr/acf	0.86	8,760	3.75
EU 4	<u>Bulk Cement Loadout Units 1 & 2</u>								
	Railcar/Truck Unit 1	B-110	Baghouse	300	3,000	0.01 gr/acf	0.26	8,760	1.13
	Truck Unit 2	B-210	Baghouse	300	3,000	0.01 gr/acf	0.26	8,760	1.13
TOTAL								8.10	50.36

Notes:

(a) Airflow reflects dscfm.

Table 4-1. Emissions Increase Associated With Slag Project, Tarmac America, Inc. (Revised 5/12/97)

Regulated Pollutant	Affected Point Sources				PSD Significant Emission Rate (TPY)	PSD Review Applies?
	(A) Fugitives From Slag Handling (TPY)	(B) Current Actuals (TPY)	(C) Future Maximums (TPY)	(A-B+C) Net Increase In Emissions (TPY)		
Particulate matter (TSP)	1.78	11.70	50.36	40.4	25	Yes
Particulate matter (PM10)	0.62	11.70	50.36	39.3	15	Yes
Sulfur dioxide	--	--	18.19	18.19	40	No
Nitrogen oxides	--	--	12.81	12.81	40	No
Carbon monoxide	--	--	3.20	3.20	100	No
Volatile organic compounds	--	--	0.34	0.34	40	No
Sulfuric acid mist	--	--	0.08	0.08	7	No
Total reduced sulfur	--	--	--	--	10	No
Lead	--	--	2.7E-04	2.7E-04	0.6	No
Mercury	--	--	2.2E-04	2.2E-04	0.1	No
Beryllium	--	--	0.0E+00	0.0E+00	4.0E-04	No
Fluorides	--	--	--	--	3	No
Asbestos	--	--	--	--	0.007	No
Vinyl Chloride	--	--	--	--	1	No



Certified-RRR
Z 784 757 154

Tarmac America, Inc.
455 Fairway Drive
Deerfield Beach, FL 33441
(954) 481-2800
Fax (954) 421-0296

April 11, 1997

Environmental Department
Direct line (954.425.4190)
Direct fax (954.480.9352)

Mr. A.A. Linero, P.E.
New Source Review, Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Pennsuco Cement Plant -AP
Dade County
File No. 0250020-001-AC

Dear Mr. Linero:

Please find enclosed the affidavit of publication for the *Notice of Intent to Issue Permit* for the slag dryer at the above named facility. Tarmac will await permit issuance subsequent to the required public comment period. Thank you.

Sincerely,

Allison Taylor
Real Estate/Environmental Asst.

enc

C:\OFFICE\WPWIN\DOCS\ENV\SLAGNOL.WPD

cc: W. Hanks, BAR
D. Buff, P.E.
SEP
Nade Co
NPS

RECEIVED

APR 21 1997

BUREAU OF
AIR REGULATION

**PUBLIC NOTICE OF INTENT TO ISSUE
AIR CONSTRUCTION PERMIT
STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL
PROTECTION
DRAFT PERMIT NO. 0250020-001-
AC/PSD-FL-236
TARMAC PENNSUCO SLAG DRYING
OPERATION
DADE COUNTY**

MIAMI DAILY BUSINESS REVIEW

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

STATE OF FLORIDA
COUNTY OF DADE:

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

**PUBLIC NOTICE OF INTENT TO ISSUE
AIR CONSTRUCTION PERMIT
DRAFT PERMIT NO. 0250020-001-AC/PSD-FL-236
TARMAC PENNSUCO SLAG DRYING
OPERATION DADE COUNTY**

In the XXXXX Court,
was published in said newspaper in the issues of
Mar 26, 1997

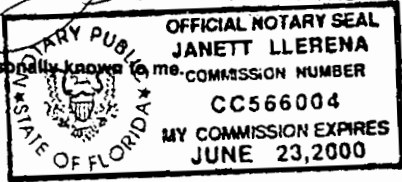
Affiant further says that the said Miami Daily Business Review is a newspaper published at Miami in said Dade County, Florida, and that the said newspaper has heretofore been continuously published in said Dade County, Florida, each day (except Saturday, Sunday and Legal Holidays) and has been entered as second class mail matter at the post office in Miami in said 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 26 day of March, A.D. 1997

(SEAL)

Sookie Williams personally known to me



The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to Tarmac America, Inc., 455 Fairway Drive, Deerfield Beach, Florida 33441, for the Tarmac Pennsoco plant located at 11000 NW 121 Way, Medley, Dade County, Florida, 33178. The permit will authorize the construction of a new blast furnace slag drying operation to replace the one permitted on October 27, 1995. A Best Available Control Technology (BACT) determination was required for particulate matter (PM/PM10) pursuant to Rule 62-212.400, F.A.C. and 40 CFR 52.21, Prevention of Significant Deterioration (PSD).

The proposed project consists of 125 tons per hour (TPH) blast furnace slag dryer and baghouse. The dryer will use natural gas and No. 2 fuel oil from a new 10,000 gallon storage tank as fuels. Particulate matter emissions from the dryer and dryer conveyor will be controlled with baghouses. Subsequent material processing will be accomplished through the use of the existing No. 4 finishing mill, clinker silos, cement silos, and loading system. The operation will process 300,000 tons per year (TPY) of blast furnace slag. The product will be shipped for use as a raw material at concrete batch plants.

Emissions of pollutants from the slag drying operation are estimated to be 43.6 TPY of particulate matter (PM/PM10), 18.2 TPY of sulfur dioxide, 12.8 TPY of nitrogen oxides, 3.2 TPY of carbon monoxide, and less than 1 TPY of volatile organic compounds. Particulate control will be accomplished by use of fabric filters and reasonable precautions.

An air quality impact analysis was not conducted because the increase in emissions is less than 50 TPY for each pollutant. Emissions from the facility will consume PSD increment but will not significantly contribute to or cause a violation of any state or federal ambient air quality standards.

The Department will issue the FINAL Permit, in accordance with the conditions of the DRAFT Permit 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 and requests for public meetings concerning the proposed DRAFT Permit issuance action for a period of 30 (thirty) days from the date of publication of this Notice. Written comments and requests for public meetings should be provided to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in this DRAFT Permit, the Department shall issue a Revised DRAFT Permit and require, if applicable, another Public Notice.

The Department will issue FINAL Permit with the conditions of the DRAFT Permit unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S. or a party requests mediation as an alternative remedy under Section 120.573 before the deadline for filing a petition. Choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement. The procedures for petitioning for a hearing are set forth below, followed by the procedures for requesting mediation.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57 F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, telephone: 904/488-9370, fax: 904/487-4938. Petitions

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. A petitioner must 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 (or a request for mediation, as discussed below) 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 28-5.207 of the Florida Administrative Code.

A petition must contain the following information: (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by petitioner; if any; (e) A statement of the facts that the petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement identifying the rules or statutes that the petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take with respect to the Department's action or proposed action addressed in this notice of intent.

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 of intent. 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 person whose substantial interests are affected by the Department's proposed permitting decision, may elect to pursue mediation by asking all parties to the proceeding to agree to such mediation and by filing with the Department a request for mediation and the written agreement of all such parties to mediate the dispute. The request and agreement must be filed in (received by) the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, by the same deadline as set forth above for the filing of a petition.

A request for mediation must contain the following information: (a) The name, address, and telephone number of the person requesting mediation and that person's representative, if any; (b) A statement of the preliminary agency action; (c) A statement of the relief sought; and (d) Either an explanation of how the requester's substantial interests

will be affected by the action or proposed action addressed in this notice of intent or a statement clearly identifying the petition for hearing that the requester has already filed, and incorporating it by reference.

The agreement to mediate must include the following: (a) The names, addresses, and telephone numbers of any persons who may attend the mediation; (b) The name, address, and telephone number of the mediator selected by the parties, or a provision for selecting a mediator within a specified time; (c) The agreed allocation of the costs and fees associated with the mediation; (d) The agreement of the parties on the confidentiality of discussions and documents introduced during mediation; (e) The date, time, and place of the first mediation session, or a deadline for holding the first session, if no mediator has yet been chosen; (f) The name of each party's representative who shall have authority to settle or recommend settlement; and (g) The signatures of all parties or their authorized representatives.

As provided in Section 120.573 F.S., the timely agreement of all parties to mediate will toll the time limitations imposed by Sections 120.569 and 120.57 F.S. for requesting and holding an administrative hearing. Unless otherwise agreed by the parties, the mediation must be concluded within sixty days of the execution of the agreement. If mediation results in settlement of the administrative dispute, the Department must enter a final order incorporating the agreement of the parties. Persons whose substantial interests will be affected by such modified final decision of the Department have a right to petition for a hearing only in accordance with the requirements for such petitions set forth above. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under Sections 120.569 and 120.57 F.S. remain available for disposition of the dispute, and the notice will specify the deadlines that then will apply for challenging the agency action and electing remedies under those two statutes.

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:

Department of	Department of	Dade County DERM
Environmental Protection	Environmental Protection	Penthouse 2
Bureau of Air Regulation	Southeast District	33 S.W. 2nd Avenue
111 S. Magnolia Drive, Suite 4	400 North Congress Avenue	Miami, Florida 33130
Tallahassee, Florida 32301	West Palm Beach, Florida 33419-5425	Telephone: 305/372-6925
Telephone: 904/488-1344	Telephone: 561/681-6790	Fax: 305/372-6954
Fax: 904/922-6979	Fax: 561/681-6755	

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 904/488-1344, for additional information.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
100 ALABAMA STREET, S.W.
ATLANTA, GEORGIA 30303-3104

AL

4APT-ARB

APR 03 1997

Mr. Clair H. Fancy, P.E.
Chief
Bureau of Air Regulation
Florid Department of Environmental
Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

SUBJ: Tarmac America, Inc., Medley, Florida (PSD-FL-236)

Dear Mr. Fancy:

This is to acknowledge receipt of the preliminary determination and draft Prevention of Significant Deterioration (PSD) permit for the above referenced facility submitted by your March 3, 1997, letter. The proposed major modification at Tarmac's existing portland cement plant consists of the installation of a new dryer and dry slag conveying system to allow the processing of up to 300,000 tons per year of blast furnace slag from iron foundries. After being dried in the new dryer, the slag will be processed by use of the existing No. 4 finishing mill, clinker silos, cement silos, and loading system. The product will be shipped for use as a raw material at concrete batch plants. Based on the Best Available Control Technology (BACT) analysis, PM emissions from the new dryer and conveyor system will be controlled with fabric filters. The maximum PM emission rate from the slag dryer will be limited to 0.02 gr/dscf or 10 percent opacity. The maximum PM emission rate for the conveyor system will be 0.01 gr/acf or 5 percent opacity. The new slag conveying system will be subject to 40 CFR Part 60, Subpart F - Standards of Performance for Portland Cement Plants. We have reviewed the preliminary determination and draft permit and have no adverse comments.

Thank you for the opportunity to review and comment on the draft permit and supporting information. If you have any questions regarding our review, please contact Mr. Keith Goff of my staff at (404)562-9137.

Sincerely yours,

R. Douglas Neeley
Chief
Air and Radiation Technology Branch
Air, Pesticides, and Toxics
Management Division

RECEIVED

APR 07 1997

BUREAU OF
AIR REGULATION

cc: w. Hanks, BAR
D. Buff, G.A.

NPS

SED

Dade CO.



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

March 3, 1997

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Scott Quaas
Environmental Manager
Tarmac America, Inc.
455 Fairway Drive
Deerfield Beach, Florida 33441

Re: DRAFT Permit No. 0250020-001-AC, PSD-FL-236
Tarmac Pennsuco Portland Cement Plant/Slag Dryer

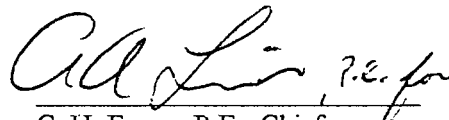
Dear Mr. Quaas:

Enclosed is one copy of the Draft Air Construction Permit for a new slag dryer and baghouse to be built at Tarmac's Pennsuco portland cement plant located at 11000 N.W. 121 Way, Medley, Dade County. The Technical Evaluation and Preliminary Determination, Best Available Control Technology determination, the Department's Intent to Issue Air Construction Permit, and the "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT" are also included.

The "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT" must be published within 30 (thirty) days of receipt of this letter. Proof of publication, i.e., newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within 7 (seven) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

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 above letterhead address. If you have any other questions, please contact Willard Hanks or Mr. Linero at 904/488-1344.

Sincerely,


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

CHF/wh/t

Enclosures

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
- 2. Restricted Delivery

Consult postmaster for fee.

<p>3. Article Addressed to: <i>Scott Quass, Env. Mgr.</i> <i>Tarmac America</i> <i>455 Fairway Dr</i> <i>Deerfield Bch, FL</i> <i>33441</i></p>	<p>4a. Article Number <i>P 265 659 185</i></p> <p>4b. Service Type <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail <input type="checkbox"/> Insured <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> COD</p> <p>7. Date of Delivery <i>3-20</i></p>
<p>5. Received By: (Print Name) <i>[Signature]</i></p>	<p>8. Addressee's Address (Only if requested and fee is paid)</p>
<p>6. Signature: (Addressee or Agent) <input checked="" type="checkbox"/> <i>[Signature]</i></p>	

Thank you for using Return Receipt Service.

PS Form 3800, April 1995 Domestic Return Receipt

P 265 659 185

US Postal Service
Receipt for Certified Mail

No Insurance Coverage Provided.
 Do not use for International Mail (See reverse)

Sent to <i>Scott Quass</i>	
Street & Number <i>Tarmac</i>	
Post Office, State, & ZIP Code <i>Deerfield Bch, FL</i>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	<i>3/6/97</i>
<i>0250020-001-AC</i>	
<i>PSD-FL-236</i>	

PS Form 3800, April 1995

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DRAFT Permit No. 0250020-001-AC/PSD-FL-236
Tarmac Pennsuco Slag Drying Operation
Dade County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to Tarmac America, Inc., 455 Fairway Drive, Deerfield Beach, Florida 33441, for the Tarmac Pennsuco plant located at 11000 NW 121 Way, Medley, Dade County, Florida, 33178. The permit will authorize the construction of a new blast furnace slag drying operation to replace the one permitted on October 27, 1995. A Best Available Control Technology (BACT) determination was required for particulate matter (PM/PM₁₀) pursuant to Rule 62-212.400, F.A.C. and 40 CFR 52.21, Prevention of Significant Deterioration (PSD).

The proposed project consists of 125 tons per hour (TPH) blast furnace slag dryer and baghouse. The dryer will use natural gas and No. 2 fuel oil from a new 10,000 gallon storage tank as fuels. Particulate matter emissions from the dryer and dryer conveyor will be controlled with baghouses. Subsequent material processing will be accomplished through the use of the existing No. 4 finishing mill, clinker silos, cement silos, and loading system. The operation will process 300,000 tons per year (TPY) of blast furnace slag. The product will be shipped for use as a raw material at concrete batch plants.

Emissions of pollutants from the slag drying operation are estimated to be 43.6 TPY of particulate matter (PM/PM₁₀), 18.2 TPY of sulfur dioxide, 12.8 TPY of nitrogen oxides, 3.2 TPY of carbon monoxide, and less than 1 TPY of volatile organic compounds. Particulate control will be accomplished by use of fabric filters and reasonable precautions.

An air quality impact analysis was not conducted because the increase in emissions is less than 50 TPY for each pollutant. Emissions from the facility will consume PSD increment but will not significantly contribute to or cause a violation of any state or federal ambient air quality standards.

The Department will issue the FINAL Permit, in accordance with the conditions of the DRAFT Permit 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 and requests for public meetings concerning the proposed DRAFT Permit issuance action for a period of 30 (thirty) days from the date of publication of this Notice. Written comments and requests for public meetings should be provided to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in this DRAFT Permit, the Department shall issue a Revised DRAFT Permit and require, if applicable, another Public Notice.

The Department will issue FINAL Permit with the conditions of the DRAFT Permit unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S. or a party requests mediation as an alternative remedy under Section 120.573 before the deadline for filing a petition. Choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement. The procedures for petitioning for a hearing are set forth below, followed by the procedures for requesting mediation.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57 F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, telephone: 904/488-9370, fax: 904/487-4938. Petitions 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. A petitioner must 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 (or a request for mediation, as discussed below) 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 28-5.207 of the Florida Administrative Code.

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

A petition must contain the following information: (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by petitioner, if any; (e) A statement of the facts that the petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement identifying the rules or statutes that the petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take with respect to the Department's action or proposed action addressed in this notice of intent.

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 of intent. 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 person whose substantial interests are affected by the Department's proposed permitting decision, may elect to pursue mediation by asking all parties to the proceeding to agree to such mediation and by filing with the Department a request for mediation and the written agreement of all such parties to mediate the dispute. The request and agreement must be filed in (received by) the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, by the same deadline as set forth above for the filing of a petition.

A request for mediation must contain the following information: (a) The name, address, and telephone number of the person requesting mediation and that person's representative, if any; (b) A statement of the preliminary agency action; (c) A statement of the relief sought; and (d) Either an explanation of how the requester's substantial interests will be affected by the action or proposed action addressed in this notice of intent or a statement clearly identifying the petition for hearing that the requester has already filed, and incorporating it by reference.

The agreement to mediate must include the following: (a) The names, addresses, and telephone numbers of any persons who may attend the mediation; (b) The name, address, and telephone number of the mediator selected by the parties, or a provision for selecting a mediator within a specified time; (c) The agreed allocation of the costs and fees associated with the mediation; (d) The agreement of the parties on the confidentiality of discussions and documents introduced during mediation; (e) The date, time, and place of the first mediation session, or a deadline for holding the first session, if no mediator has yet been chosen; (f) The name of each party's representative who shall have authority to settle or recommend settlement; and (g) The signatures of all parties or their authorized representatives.

As provided in Section 120.573 F.S., the timely agreement of all parties to mediate will toll the time limitations imposed by Sections 120.569 and 120.57 F.S. for requesting and holding an administrative hearing. Unless otherwise agreed by the parties, the mediation must be concluded within sixty days of the execution of the agreement. If mediation results in settlement of the administrative dispute, the Department must enter a final order incorporating the agreement of the parties. Persons whose substantial interests will be affected by such modified final decision of the Department have a right to petition for a hearing only in accordance with the requirements for such petitions set forth above. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under Sections 120.569 and 120.57 F.S. remain available for disposition of the dispute, and the notice will specify the deadlines that then will apply for challenging the agency action and electing remedies under those two statutes.

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:

Department of Environmental Protection
Bureau of Air Regulation
111 S. Magnolia Drive, Suite 4
Tallahassee, Florida 32301
Telephone: 904/488-1344
Fax: 904/922-6979

Department of Environmental Protection
Southeast District
400 North Congress Avenue
West Palm Beach, Florida 33419-5425
Telephone: 561/681-6790
Fax: 561/681-6755

Dade County DERM
Penthouse 2
33 Southwest Second Avenue
Miami, Florida 33130
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 904/488-1344, for additional information.

In the Matter of an
Application for Permit by:

Mr. Scott Quaas
Environmental Manager
Tarmac America, Inc.
455 Fairway Drive
Deerfield Beach, Florida 33441

DRAFT Permit No. 0250020-001-AC
PSD-FL-236
Tarmac Pennsuco/Dade County

INTENT TO ISSUE AIR CONSTRUCTION PERMIT

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

The applicant, Tarmac America, Inc., applied on December 6, 1996, to the Department for an air construction permit for a new emissions unit at its Tarmac Pennsuco facility located at 11000 N.W. 121 Way, Medley, Dade County. The proposed permit is for a new blast furnace slag dryer and baghouse that will replace similar equipment recently permitted at this plant.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-212. The above actions are not exempt from permitting procedures. The Department has determined that a new air construction permit is required to install the new dryer and baghouse with revised emission limits. The proposed permit will supersede and replace Permit No. AC13-273887 (PSD-FL-230) when the new slag dryer begins operation.

The Department intends to issue this air construction permit based on the belief that reasonable assurances have been provided 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, 62-296, and 62-297, F.A.C.

Pursuant to Section 403.815, F.S., and Rule 62-103.150, 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". The notice shall be published one time only within 30 (thirty) days in the legal advertisement section of a newspaper of general circulation in the area affected. 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. Where there is more than one newspaper of general circulation in the county, the newspaper used must be one with significant circulation in the area that may be affected by the permit. 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: 904/488-1344; Fax 904/ 922-6979) within 7 (seven) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit pursuant to Rule 62-103.150 (6), F.A.C.

The Department will issue the FINAL Permit, in accordance with the conditions of the enclosed DRAFT Permit 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 and requests for public meetings concerning the proposed DRAFT Permit issuance action for a period of 30 (thirty) days from the date of publication of "PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT." Written comments and requests for public meetings should be provided to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in this DRAFT Permit, the Department shall issue a Revised DRAFT 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., or a party requests mediation as an alternative remedy under Section 120.573 F.S. before the deadline for filing a petition. Choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement. The procedures for petitioning for a hearing are set forth below, followed by the procedures for requesting mediation.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57 F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, telephone: 904/488-9730, fax: 904/487-4938. Petitions 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. A petitioner must 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 (or a request for mediation, as discussed below) 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 28-5.207 of the Florida Administrative Code.

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A request for mediation must contain the following information: (a) The name, address, and telephone number of the person requesting mediation and that person's representative, if any; (b) A statement of the preliminary agency action; (c) A statement of the relief sought; and (d) Either an explanation of how the requester's substantial interests will be affected by the action or proposed action addressed in this notice of intent or a statement clearly identifying the petition for hearing that the requester has already filed, and incorporating it by reference.

The agreement to mediate must include the following: (a) The names, addresses, and telephone numbers of any persons who may attend the mediation; (b) The name, address, and telephone number of the mediator selected by the parties, or a provision for selecting a mediator within a specified time; (c) The agreed allocation of the costs

and fees associated with the mediation; (d) The agreement of the parties on the confidentiality of discussions and documents introduced during mediation; (e) The date, time, and place of the first mediation session, or a deadline for holding the first session, if no mediator has yet been chosen; (f) The name of each party's representative who shall have authority to settle or recommend settlement; and (g) The signatures of all parties or their authorized representatives.

As provided in Section 120.573 F.S., the timely agreement of all parties to mediate will toll the time limitations imposed by Sections 120.569 and 120.57 F.S. for requesting and holding an administrative hearing. Unless otherwise agreed by the parties, the mediation must be concluded within sixty days of the execution of the agreement. If mediation results in settlement of the administrative dispute, the Department must enter a final order incorporating the agreement of the parties. Persons whose substantial interests will be affected by such modified final decision of the Department have a right to petition for a hearing only in accordance with the requirements for such petitions set forth above. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under Sections 120.569 and 120.57 F.S. remain available for disposition of the dispute, and the notice will specify the deadlines that then will apply for challenging the agency action and electing remedies under those two statutes.

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. 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.



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

**DIVISION OF AIR RESOURCES MANAGEMENT
BUREAU OF AIR REGULATION
NEW SOURCE REVIEW SECTION
Telephone (904) 488-1344
Fax (904) 922-6979**

**TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION**

Pennsucco Cement/Blast Furnace Slag Operation

Tarmac America, Inc.

Facility ID No. 0250020
Medley
Dade County

Deaprtment File No. 0250020-001 AC
PSD-FL-236

March 3, 1997

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

I. GENERAL INFORMATION

A. Applicant

Tarmac America, Inc.
455 Fairway Drive
Deerfield Beach, Florida 33441

B. Request

On December 6, 1996, Tarmac America, Inc. submitted an application for an air construction permit to build a blast furnace slag processing operation consisting of a slag dryer and baghouse at the Pennsuco Cement Plant (SIC 3241) located in Medley, Dade County, Florida. The UTM coordinates of this site are Zone 17, 562.8 km E and 2861.7 km N. The application was complete on January 22, 1997.

C. Project

The applicant proposes to process 300,000 tons per year (TPY) of blast furnace slag at their existing portland cement plant site. The proposed slag processing operation will have a new 10,000 gallon fuel oil storage tank, a 125 tons per hour (TPH) slag dryer that uses 57.5 million British thermal units per hour (mmBtu/hr) heat input from No. 2 fuel oil or natural gas, and a conveyor system. The particulate emissions from the dryer and conveyor will be controlled by baghouses. The blast furnace slag processing operation will use the existing Clinker Storage Silos (Nos. 21, 22, 23, 26, 27, and 28), Finishing Mill No. 4, Cement Storage Silos 1, 2, 3, 4, 5, 6, 7, 8, and 9, and Bulk Loadout Units 1 and 2 at the portland cement plant. The emissions from the silos and mill are controlled with baghouses. Reasonable precautions must be used to control unconfined particulate matter emissions from the handling of the wet slag in the yard.

The slag will be brought to the plant in trucks and dried in the new plant dryer. It will then be ground, stored, handled and shipped in the existing finish mill, clinker and cement silos, and loadout units.

This operation will replace the one authorized by permit No. PSD-FL-230. As concurrent operation of both systems is not authorized by the Department, permit No. PSD-FL-230 must be surrendered when the new slag dryer begins operation.

D. Emissions

Air pollutants will be emitted from the dryer and during the handling, grinding, and storage of the slag.

The dryer will emit particulate matter (PM and PM10) along with the products of combustion of the No. 2 fuel oil and natural gas. The applicant requested a particulate matter emission standard of 0.04 grain per dry standard cubic foot (gr/dscf) for the baghouse serving the new dryer. With the estimated gas flow of 27,820 dry standard cubic feet per minute (dscfm), limited to 3,120 per year, the PM emissions would be 9.54 pounds per hour (lbs/hr) and 14.88 TPY. The emissions from other baghouses on equipment handling the dried slag was reported to be 0.01 grain per actual cubic-foot (gr/acf).

Based on a fuel consumption of 410.6 gallons per hour (GPH) of No. 2 fuel oil (57.5 mmBtu/hr heat input) for 3,120 hrs/yr and AP-42 emission factors, the emissions of the products of combustion from the dryer will be 11.66 lbs/hr and 18.19 TPY sulfur dioxide (SO₂), 8.21 lbs/hr and 12.81 TPY nitrogen oxides (NO_x), 2.05 lbs/hr and 3.20 TPY carbon monoxide (CO), and smaller quantities of volatile organic compounds (VOC), sulfuric acid mist (SAM), lead, mercury, and beryllium.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Based on the procedures listed in an earlier AP-42, fugitive dust emissions from the handling and storage of the slag were estimated to be 1.775 TPY PM and 0.625 TPY PM10. Using a later emission factor, fugitive emissions estimates would be approximately 4 TPY. Emissions of particulate matter (PM) from the silos, mill, conveyers, and loadout units were estimated at 36.15 TPY. Tables 3-1 through 3-4 of the application summarizes these emission estimates.

The proposed increase in emissions from the facility resulting from the blast furnace slag processing operation by the applicant (41.1 TPY PM and 39.9 TPY PM10) exceed the significant emissions rates listed in Chapter 212, F.A.C. The increase in emissions of the other air pollutants that will be emitted by the proposed slag processing operation are less than the significant emissions rates. Table 4-1 from the application is a summary of the requested increase in emissions from the proposed slag operation.

II. RULE APPLICABILITY

The proposed construction of a blast furnace slag processing operation at an existing portland cement plant (SIC 3241), is subject to the preconstruction requirements under the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4 and 62-212, Florida Administrative Code (F.A.C.).

The portland cement plant is located in Dade County. This air quality area is designated attainment/maintenance for ozone (Rule 62-275.420, F.A.C.) and is attainment for the other criteria pollutants (Rule 62-275.400, F.A.C.). Also, Dade County has its own environmental agency which may have additional requirements, such as licenses for the storage area and fuel tank for the proposed project.

The portland cement plant is a major facility. The proposed furnace slag processing operation will increase emissions of particulate matter (PM and PM10) by more than the significant emission rates. Therefore, the proposed project is subject to the New Source Review (NSR) requirements pursuant to Rule 62-212.400(5), F.A.C., which requires a Best Available Control Technology (BACT) determination for PM and PM10. The net emissions increase of all pollutants due to the proposed slag processing operation is less than 50 TPY. Therefore the project is exempt from Rule 62-212.400(5)(d), (e), (f), and (g), F.A.C., which are requirements for ambient impact analysis, an additional impact analysis, a preconstruction air quality monitoring analysis, and post construction monitoring (Rule 62-212.400(3)(d), F.A.C.). The operation is also subject to portions of 40 CFR 60, Subpart F, Standards of Performance for Portland Cement Plants.

III. TECHNICAL EVALUATION

Up to 300,000 TPY of blast furnace slag will be hauled to the plant by trucks. The slag will contain 15 to 18 percent moisture. The applicant stated that the storage and handling of the slag will not cause a fugitive dust problem. Should a problem develop, the applicant will apply water to the slag or take additional measures to minimize fugitive emissions from handling the slag. These precautions shall be taken whenever unconfined emissions are observed (EPA Method 22) to be leaving the storage area. The additional measures could include the installation of permanent water applicators for the undried slag.

Front-end loaders will transfer the slag to a dryer feed hopper. The hopper discharges to a conveyor that takes the slag to the 125 TPH dryer. Moisture in the slag will be reduced to 3 to 5 percent by the dryer using either No. 2 fuel oil or natural gas fuels. No. 2 fuel oil containing a maximum of 0.2 percent sulfur from a new 10,000 gallon (maximum) fuel oil storage tank will be consumed by the dryer at a maximum rate of 57.5 MMBtu/hr (approximately 410.6 GPH). Maximum fuel oil consumption by this dryer will be 1,281,000 GPY. Approximately 57,000 cubic feet per hour of natural gas may be burned as an alternate fuel. The estimated emissions of the products of combustion from this fuel are shown in Table 3-1 of the application.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

PM/PM10 emissions from the dryer will be controlled by a Flex-Kleen baghouse that has a 4.5:1 air to cloth ratio. The applicant proposed an emission limit of 0.04 gr/dscf which is the new source performance standard for asphalt concrete plants. The Department's draft BACT determination (attached) sets the emission standard for PM at 0.02 gr/dscf. This standard is equivalent to 4.8 lbs/hr and 7.4 TPY PM emission from the proposed dryer.

The slag leaving the dryer contains about 5 percent moisture. It is transferred to the existing clinker handling system by a new conveying system that is controlled by a new baghouse. It is later transferred and ground in Finishing Mill No. 4. The application states that the allowable emissions from the baghouse controlling this mill will be reduced to 0.01 gr/acf. The Department believes the PM/PM10 emissions may be higher for these baghouses. However, the higher emissions would not change the rule applicability determination for this project. The ground slag from the mill will be sent to the existing cement silos and shipped out of the plant by Bulk Loadout Units Nos. 1 and 2.

The visible emissions standards for these operations will be:

Slag Dryer:	10 percent opacity
Storage Piles:	No fugitive emissions observed leaving the plant.
Belt Conveyer Transfer Points:	10 percent opacity
Finish Mill Baghouse:	5 percent opacity
Silo Baghouses:	5 percent opacity
Bulk Loadout Operation:	10 percent opacity

IV. AIR QUALITY IMPACT ANALYSIS

The regulations do not require an air quality impact for a modification that increases emissions by less than 50 TPY. The increase in emissions from the blast furnace slag processing operation will not cause a violation of any ambient air quality standard.

V. CONCLUSION

On the basis of the information provided by Tarmac America, Inc., the Department has reasonable assurance that the proposed blast furnace slag processing operation, as described in this evaluation and subject to the conditions proposed within, will not cause a violation of any air quality standard, PSD increment, or other technical provision of Chapter 62-212 of the Florida Administrative Code.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

Blast Furnace Slag Processing Operation with Slag Dryer
Tarmac America, Inc.
PSD-FL-236 and 0250020-001-AC
Medley, Dade County

DRAFT

A process description is included in the Technical Evaluation and Preliminary Determination.

Following is the BACT determination proposed by the applicant:

Tarmac America, Inc. proposes to construct a blast furnace slag processing operation consisting of a slag dryer and baghouse at the Pennsuco Cement Plant in Medley, Dade County. The new dryer will replace the one recently built under permit No. PSD-FL-230. Major components of the proposed slag processing operation are a fuel storage tank, a new 125 TPH slag dryer/baghouse, and a dried slag conveying system with a baghouse. The slag processing system will use the existing clinker and cement storage silos, the No. 4 Finishing Mill, and Bulk Cement Loadout Units Nos. 1 and 2.

The slag processing operation will emit particulate matter (PM and PM₁₀) and the product of combustion of No. 2 fuel oil and natural gas. The emission limits requested by the applicant from the slag handling operation would result in a net emissions increase of 41.1 TPY for PM, 39.9 TPY for PM₁₀, 18.19 TPY for SO₂, 12.81 TPY for NO_x, and smaller quantities (less than the significant emissions rates) for CO, VOC, sulfuric acid mist, total reduce sulfur, lead, mercury, fluorides, asbestos, and vinyl chloride. The requested increase in allowable emissions of PM and PM₁₀ are above the significant emissions rates of 25 and 15 TPY, respectively. The proposed slag processing operation is subject to the Prevention of Significant Deterioration (PSD) regulations and the allowable emissions of PM and PM₁₀ for the slag dryer are set by a BACT determination. The existing Portland cement processing equipment (Clinker and Cement Silos, Conveyers and Finishing Mill) are not subject to this BACT determination because the equipment was capable of accommodating blast furnace slag without a capital expenditure.

DATE OF RECEIPT OF A BACT APPLICATION

December 6, 1996

BACT REQUESTED BY THE APPLICANT

The applicant proposed the use of a baghouse with a 4.5:1 air/cloth ratio to control the emissions from the slag dryer. The requested PM emission standard is 0.04 gr/dscf. The applicant proposed to lower this standard if tests on the constructed facility showed it would consistently meet a lower limit.

BACT DETERMINATION PROCEDURE

In accordance with Rule 62-212.410, F.A.C., this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department of Environmental Protection (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:

- (a) Any Environmental Protection Agency determination of BACT pursuant to 40 CFR 52.21, 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).
- (b) All scientific, engineering, and technical material and other information available to the Department.
- (c) The emission limiting standards or BACT determinations of any other state.

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

(d) 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 is to determine for the emission unit in question 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 infeasible 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.

BACT DETERMINED BY THE DEPARTMENT

The dryer is a source of particulate matter emissions. The emissions of particulate matter will be controlled by a baghouse. The Department considers a properly designed baghouse to be the appropriate air pollution control device for this source. The BACT Clearinghouse Document does not list a BACT determination for particulate matter emissions from a blast furnace slag dryer. The Department notes that baghouses controlling other sources handling similar inert solid material (phosphate rock, limestone, etc.) are able to meet a particulate matter emission limit of 0.02 grain per dry standard cubic foot (gr/dscf). The Department also notes that the application states that the particulate matter emissions from the No. 4 Finish Mill would be 0.01 grain per actual cubic foot. Allowing for the temperature and moisture content of the air leaving the finishing mill, the 0.01 gr/acf is approximately equal to 0.02 gr/dscf. The Department has determined that BACT for the blast furnace slag dryer is the use of a properly designed baghouse having an air to cloth ratio of 4.5:1 or larger filtering area. The Department believes the baghouse can meet a PM emission standard of 0.02 gr/dscf and 10 percent opacity. The Department will adjust this standard if tests on the properly maintained and operated baghouse having an air to cloth ratio of 4.5:1 or larger filtering area serving the slag dryer shows it cannot meet this standard.

DETAILS OF THE ANALYSIS MAY BE OBTAINED BY CONTACTING:

Willard Hanks, Permit Engineer
A. A. Linero, P.E., Administrator, NSR Section
Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DRAFT

RECOMMENDED BY:

APPROVED BY:

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

Howard L. Rhodes, Director
Division of Air Resources Management

_____, 1997
Date

_____, 1997
Date



Department of Environmental Protection

DRAFT

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

PERMITTEE:

Tarmac America, Inc.
Pennsuco Cement Plant
455 Fairway Drive
Deerfield Beach, Florida 33441
Authorized Representative:
Mr. Scott Quaas
Environmental Manager

FID No.	0250020
PSD No.	PSD-FL-236
Permit No.	0250020-001-AC
Expires:	July 1, 1998

LOCATED AT:

Tarmac America, Inc., Pennsuco Cement Plant
Project: Blast Furnace Slag Processing Furnace
Standard Industrial Classification Code (SIC): 3241
Dade County, Florida

UTM: Zone 17; 562.8 km E; 2861.7 km N
Latitude/ Longitude: 25°52'26" / 80°22'27"

STATEMENT OF BASIS:

This draft construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and the Florida Administrative Code (F.A.C.) Chapters 62-4, 62-204, 62-210, 62-212, 62-296, 62-297. The above named permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

Attached appendices and Tables made a part of this permit:

Appendix BD	BACT Determination
Appendix GC	Construction Permit General Conditions
Table 3-4	Future Maximum Particulate Emissions from Affected Point Sources

EFFECTIVE DATE:

Howard L. Rhodes, Director
Division of Air Resources
Management

SECTION I. FACILITY INFORMATION

DRAFT**PROJECT DESCRIPTION:**

The permittee wishes to construct a Blast Furnace Slag Processing Operation consisting of a slag dryer at the existing Pennsuco Cement Plant located at 11000 N.W. 121 Way, Medley, Dade County, Florida 33178. The UTM coordinates of this site are Zone 17, 562.8 km E and 2861.7 km N.

Major components of the proposed blast furnace slag processing operation are a new 10,000 gallon fuel storage tank, a new 125 ton per hour (TPH) Gencor (or equivalent) dryer with a baghouse, and a new dry slag conveyor with a baghouse. The slag processing operation will use the portland cement plant's existing Clinker Silos Nos. 21, 22, 23, 26, 27, and 28 for dried slag storage, Cement Silos Nos. 7, 8, and 9 for the ground slag storage, No. 4 Finish Mill, and Bulk Cement Loadout Units Nos. 1 and 2.

The emission units shall be constructed and operated in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Additional county permits may be required by the Dade County Department of Environmental Resource Management (DERM) for some of the slag drying operations (fuel tanks, slag storage, etc.).

This permit replaces permit No. AC13-273887, PSD-FL-230 when the new dryer authorized by this permit begins operation.

PERMIT SCHEDULE:

- (DATE) for an administrative hearing
- (DATE) Notice of Intent published in [issue of Newspaper]
- (DATE) Issued Notice of Intent to issue Permit
- 01/22/97 Application deemed complete

The documents listed below are the basis of the permit. They are specifically related to this permitting action. These documents are on file with the Department.

1. Application received December 6, 1996.
2. DEP letter dated December 30, 1996.
3. Golder Assoc. letter dated January 20, 1997.

SECTION II EMISSION UNIT(S) SPECIFIC CONDITIONS

SUBSECTION A. SPECIFIC CONDITIONS:

DRAFT

General

- A.1 This permit incorporates all requirements of permit No. AO 13-238048 that are applicable to the No. 4 Finishing Mill; Clinker Silos Nos. 21, 22, 23, 26, 27, and 28; Cement Silos Nos. 7, 8, and 9; Bulk Cement Loadout Units 1 and 2, and all requirements of permit No. AC 13-234568 that are applicable to the conveyor systems handling the slag except as otherwise noted in any specific condition of this permit. This permit supersedes permit No. AC13-273887 (PSD-FL-230) when the Gencor dryer begins operation.

Construction

- A.2 The No. 2 fuel oil storage tanks shall be constructed so that their maximum storage capacity is less than 40 cubic meters (10,568 gallons). A DERM license may be required for this fuel tank.
- A.3 The blast furnace slag dryer stack shall have a minimum height of 30 feet and a maximum diameter of 4 feet. The stack shall be equipped with sampling facilities that comply with the requirements of Rule 62-297.345, F.A.C.

Federal Requirements

- A.4 The permittee shall construct and operate this the blast furnace slag processing operation so that it complies with the requirements of 40 CFR 52.21, F.A.C., Prevention of Significant Deterioration of Air Quality, and 40 CFR 60, Subpart F, Standards of Performance for Portland Cement Plants.

Emission Limits

- A.5 The particulate matter emissions (total PM and PM10) from the baghouse serving the slag dryer shall not exceed any of the following: 0.02 gr/dscf, 4.8 lbs/hr, 7.44 TPY, and 10 percent opacity. This standard may be modified if compliance tests show that the baghouse has an air to cloth ratio of 4.5:1 or larger and the filtering area is unable to meet a standard of 0.02 gr/dscf.
- A.6 Particulate matter emissions from the dry slag conveying system shall not exceed 0.01 gr/acf or 5 percent opacity.
- A.7 Particulate matter emissions from the No. 4 Finishing Mill shall not exceed 0.01 gr/acf or 5 percent opacity.
- A.8 Except for the new slag dryer, PM emissions from the other processing equipment handling blast furnace slag shall not exceed the quantities listed in Table 1 (attached) of the application. Unconfined PM emissions from the yard shall be minimized by applying the following reasonable precautions:
- a) Paved parking and traffic areas shall be well maintained and kept free of particulate matter build-up. Vacuum type sweeper(s) shall be used to clean the paved areas. Sweeper(s) shall be maintained and operated such that visible emissions from the sweeper(s) do not exceed 5% opacity.

DRAFT**SECTION II. EMISSION UNIT(S) SPECIFIC CONDITIONS**

- b) Water sprinklers shall be used when necessary to control unconfined particulate matter emissions from unpaved roads and work areas.
- c) Bulk Cement (railcar/truck) Loadout Unit 1, Bulk Cement (truck) Loadout Unit 2 and Transfer Pump Hopper (under Silos 10-12), equipped with Baghouses B-110, B-210, and B-323 respectively, exhaust particulate emissions to the interior of enclosed areas. Fugitive emissions shall be contained in this manner so as not to exceed 5% opacity from the vents, doors, etc.
- d) Water sprinklers and wind breaks, enclosures, or covers shall be used to control unconfined PM emissions from the yard.

A DERM license may be required for the slag storage operation.

A.9 Visible emissions from the blast furnace slag processing facility shall not exceed any of the following:

- a) Yard Storage/Handling Fugitive dust shall not be observed leaving the plant area.
- b) Each Clinker/Cement silo: 5% opacity
- c) Each Conveyer Transfer Point: 10% opacity
- d) No. 4 Finish Mill 5% opacity:
- e) Bulk Cement Loadout Units 1 & 2: 10% opacity
- f) Slag dryer: 10% opacity

Operation Limitations

- A.10 The maximum wet blast furnace slag input rate to the dryer shall not exceed 125 TPH. The permittee shall install equipment or otherwise measure to the Department's satisfaction the process rate of the dryer and shall maintain records of the quantity of slag processed each day.
- A.11 The facility shall not process more than 300,000 tons of blast furnace slag during any calendar year.
- A.13 Only natural gas and low sulfur No. 2 fuel oil shall be burned in the blast furnace slag dryer. The sulfur content of the fuel shall not exceed 0.2 percent. The maximum heat input to the dryer shall not exceed 57.5 MMBtu/hr (approximately 410.6 GPH of oil or 57,000 CFH of gas). The maximum fuel consumption shall not exceed 1,281,000 GPY of oil or 178 MMCFPY of gas.
- A.14 The dryer shall not operate more than 3,120 hours per calendar year. The permittee shall maintain records of the hours of operation for the dryer each day.

SECTION II EMISSION UNIT(S) SPECIFIC CONDITIONS

DRAFT**Compliance Determination**

- A.15 Compliance with the emission limits in this permit shall be determined prior to the expiration date of this construction permit and annually thereafter by the following referenced methods as specified in 40 CFR 60, Appendix A (July 1, 1994), or by other test methods with prior Department approval:
- a) PM₁₀ - EPA Methods 1, 2, 3, 4, and 5 (assuming all PM is PM₁₀).
 - b) Visible Emissions - EPA Method 9. The visible emissions test shall be conducted concurrently with any required PM test on the facility.
- A.16 Compliance testing of emissions from the slag dryer and dried slag conveyor system shall be conducted with the dryer operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then sources may be tested at less that capacity; in this case subsequent source operation is limited to 110 percent 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 15 consecutive days for the purpose of additional compliance testing to regain the permitted capacity in the permit.
- A.17 The permittee shall notify DERM at least fifteen (15) days prior to any compliance testing required by this permit or other regulations in accordance with Rule 62-297.340(1)(i), F.A.C.
- A.18 Copies of the test report(s) shall be submitted to DERM within forty-five (45) days of completion of testing in accordance with Rule 62-297.450(3)(b), F.A.C.

Record Keeping and Reporting Requirements

- A.19 The permittee shall maintain a daily log of the actual hours of dryer operation, quantity of slag processed, and fuel consumed by the slag dryer.
- A.20 An annual operation report shall be submitted to DERM by March 1 of each calendar year pursuant to Rule 62-210.370(2), F.A.C.
- A.21 The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation prior to 60 days before the expiration of the permit (Rule 62-4.090, F.A.C.).
- A.22 A timely application for a Title V operation permit must be submitted to DERM by the date required in Rule 62-213.420, F.A.C.

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

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

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

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

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

DRAFT

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

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

Table 1. Future Maximum Particulate Emissions From Affected Point Sources

FACILITY ID NUMBER: 0250020

Permittee:
Tarmac America, Inc., Pennsuco Cement Plant

DRAFT Permit No.: 0250020-001-AC, PSD-F

DEP 3/5/97


E.U. ID#	Emission Unit/ Point	Emission Point ID	Control Equip. Type	Maximum Process Rate (TPH)	Air Flow Rate (CFM) ^a	PM/PM10 Emission Factor	PM/PM10 Emissions		
							(lb/hr)	(hr/yr)	(TPY)
EU 1	Slag Dryer	SLAG	Baghouse	150.0	34,100	0.02 gr/acf	5.75	3,120	9.12
EU 1	Dry Slag Conveying System Conveyor/Transfer Tower	Unknown	Baghouse	150.0	3,000	0.01 gr/acf	0.26	3,120	0.40
EU 2	Clinker Handling System No. 3 Conveyor/Bucket Elevator	K-347	Baghouse	150.0	5,000	0.01 gr/acf	0.43	8,760	1.88
	Conveyor/Bucket Elevator	K-447	Baghouse	150.0	5,000	0.01 gr/acf	0.43	8,760	1.88
EU 2	Clinker Storage Silos Clinker Silos 21,22,23,26,27,28	K-633	Baghouse	237.5	1,500	0.01 gr/acf	0.13	8,760	0.56
EU 3	Finish Mill #4 Ball mill/mill sweep	F-430	Baghouse	150.0	30,000	0.01 gr/acf	2.57	8,760	11.26
	Belt conveyor/separator/cement	F-432	Baghouse	150.0	17,000	0.01 gr/acf	1.46	8,760	6.38
	Clinker/gypsum conveyors	F-603	Baghouse	150.0	8,000	0.01 gr/acf	0.69	8,760	3.00
	Clinker/gypsum conveyors	F-604	Baghouse	150.0	8,000	0.01 gr/acf	0.69	8,760	3.00
	Clinker/gypsum conveyors	F-605	Baghouse	150.0	4,000	0.01 gr/acf	0.34	8,760	1.50
EU 4	Cement Storage Silos 1-9 Cement Silos 7-9	F-512	Baghouse	150.0	10,000	0.01 gr/acf	0.86	8,760	3.75
EU 4	Bulk Cement Loadout Units 1 & 2 Railcar/Truck Unit 1	B-110	Baghouse	300.0	3,000	0.01 gr/acf	0.26	8,760	1.13
	Truck Unit 2	B-210	Baghouse	300.0	3,000	0.01 gr/acf	0.26	8,760	1.13
TOTALS							14.13		44.99


Note a: Airflow reflects dscfm

Florida Department of
Environmental Protection

Memorandum

TO: Clair Fancy

THRU: Al Linero 

FROM: Willard Hanks 

DATE: March 3, 1997

SUBJECT: Tarmac Pennsuco Plant
Blast Furnace Slag Facility

Attached is the public notice package for a new blast furnace slag unit at Tarmac's Pennsuco Portland cement facility located in Medley, Dade County. This unit will replace one recently permitted at this facility that did not meet the performance goals of the permittee.

The proposed unit will use a new dryer and baghouse. It will have higher emissions than the one it is replacing. The proposed unit is subject to PSD. I believe the BACT for the dryer baghouse should be lower than the applicant proposed (0.02 versus 0.04 gr/dscf). My position is supported by EPA's evaluation of the application.

I recommend Al's certification of the Technical Evaluation and Preliminary Determination and your approval and of the cover letter and the Intent to Issue.

WH/kt

P.E. Certification Statement

Permittee: DRAFT
Tarmac America, Inc.
Pennsuco Cement Plant

Permit No.: 0250020-001-AC
Facility ID No.: 0250020

Project type: [Air Construction Permit]

I HEREBY CERTIFY that the engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including but not limited to the electrical, mechanical, structural, hydrological, and geological features).



A.A. Linero, P.E.
Registration Number: 26032

3/5
Date

Department of Environmental Protection
Bureau of Air Regulation
New Source Review Section
111 South Magnolia Drive, Suite 4
Tallahassee, Florida 32301
Phone (904) 488-1344
Fax (904) 922-6979



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
100 ALABAMA STREET, S.W.
ATLANTA, GEORGIA 30303-3104

FEB 13 1997

4APT-ARB

Mr. Clair H. Fancy, P.E.
Chief
Bureau of Air Regulation
Florida Department of Environmental
Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RECEIVED
FEB 17 1997
BUREAU OF
AIR REGULATION

SUBJ: PSD Permit Application from Tarmac America, Inc.,
Medley, Florida (PSD-FL-236)

Dear Mr. Fancy:

This is to acknowledge receipt of an application for a Prevention of Significant Deterioration (PSD) permit for a major modification to the above referenced facility submitted by a letter dated December 10, 1996, from Mr. Al Linero of your office. We have also received the revisions to this application which were submitted to the State on January 20, 1997. The application is for a proposal to process up to 300,000 tons per year of blast furnace slag from iron foundries at Tarmac's existing Portland cement plant. In order to process this raw material, a new dryer and conveying system will be installed. Below are comments regarding our review of the application package.

1. We agree with the selection of fabric filter control as Best Available Control Technology (BACT) for emissions from the new dryer. Tarmac has proposed an initial PM emission limit for the slag dryer of 0.04 gr/dscf and has proposed a performance testing program which is to be conducted following installation of the unit. The proposed emission limit is equivalent to the NSPS Subpart I emission standard for hot mix asphalt facilities, with which the manufacturer of the baghouse guarantees compliance. The purpose of the testing program would be to determine whether a lower emission limit should be established. Although we do not object to the use of a testing program for the purpose of establishing a more stringent emission limit, we recommend that the applicant further investigate the performance of similar types of operations to determine the feasibility of proposing a lower emission rate prior to permit issuance. The PM emission limits for baghouses on the conveying system at Tarmac are 0.01 gr/dscf. We have also been informed by

Mr. Willard Hanks of your office that actual test data from asphalt plants in Florida have indicated PM emissions below 0.01 gr/dscf. Based on a review of the RACT/BACT/LAER Clearinghouse (RBLC) database, BACT emission limits as low as 0.02 gr/dscf have been established for other drying operations with baghouse control, and BACT PM emission limits below 0.02 gr/dscf have been established for other types of operations.

2. The visible emission limit proposed for the new dryer should be lower than 20 percent opacity. The definition of BACT as provided in the regulations states that a visible emission standard is equivalent to an emission limitation, and emission limitations are to be based on the maximum degree of reduction achievable. Therefore, the proposed BACT visible emission standard needs to be compatible with the proposed PM emission limit. Since visible emissions of 20 percent opacity would clearly indicate compliance problems with a PM emission limit of 0.04 gr/dscf or less, an appropriate visible emissions limit needs to be proposed for BACT (i.e., no greater than 10 percent opacity). The relationship of visible emissions and concentration at asphalt plants is discussed in the document Plant Inspection and Evaluation Workshop: Opacity as an Indicator of Control Equipment Performance written by the U.S. EPA, Office of Air Quality Planning and Standards, Stationary Compliance Division (April 1979).

The NSPS regulations at 40 CFR Part 60, Subpart F - Standards of Performance for Portland Cement Plants were found to be applicable to the proposed new slag conveying system.

Thank you for the opportunity to review and comment on the application package. If you have any questions, please contact Mr. Keith Goff of my staff at (404)562-9137.

Sincerely yours,



R. Douglas Neeley
Chief
Air and Radiation Technology
Branch
Air, Pesticides, and Toxics
Management Division

cc: W. Hanks, BAR
D. Buff, Holder Assoc.
J. Kahn, SED
P. Wong, DERM
J. Bungak, NPS

Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, FL 32653-1500
Telephone (352) 336-5600
Fax (352) 336-6603



Letter of
Transmittal

RECEIVED
JAN 22 1997

BUREAU OF
AIR REGULATION

Date: 01/21/97

Project No.: 9651137-0900

To: A. A. Linero, P.E.
Florida Dept. of Env. Prot.
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Tarmac America, Inc.
Deerfield Beach, Florida Facility

The following items are being sent to you: with this letter under separate cover

<u>Copies</u>	<u>Description</u>
<u>4</u>	<u>Replacement Pages for Slag Dryer Permit Application</u>
<u>4</u>	<u>Electronic Submittal Disk (under separate cover)</u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>

These are transmitted:

- As requested
- For review
- For review and comment
- For approval
- For your information
- For Submittal

Remarks: The electronic submittal disks will follow under separate cover.

Sender: Mark Aquilar/arz

Copy to: Scott Quaas, Tarmac (2)

9651137Y/F1/WP/6 01/21/97

Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, FL 32653-1500
Telephone (352) 336-5600
Fax (352) 336-6603



January 20, 1997

Mr. A.A. Linero
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RECEIVED

JAN 22 1997

BUREAU OF
AIR REGULATION

RE: DEP File No. 0250020-001-AC, Tarmac Slag Dryer

Dear Mr. Linero:

Tarmac America has received your December 30, 1996 letter requesting additional information for the Slag Dryer permit application. On behalf of Tarmac America, please review the enclosed information in response to your requests as numbered below:

1. *The proposed baghouse appears undersized for this installation. The proposed baghouse is designed for 48,000 cubic feet per minute (cfm) with a 5.67:1 air-to-cloth ratio. Your application proposes to treat 54,600 acfm which results in an air-to-cloth ratio of 6.4:1. Baghouses such as those in this system typically have an air-to-cloth ratio of 4.5:1.*

After the application was submitted, additional discussions were held with the dryer manufacturer. The design features of air flow and capacity have been revised. The new proposed design has a hourly throughput of 125 TPH. The throughput rate described in the application was 150 TPH. The reduced hourly throughput directly affects the airflow rate. Therefore, the air-to-cloth ratio has been re-calculated as presented in Attachment A. The revised proposed air-to-cloth ratio is 4.5:1.

2. *Please investigate the use of a baghouse that can meet a particulate matter (PM) emission standard as low as 0.01 grains per dry standard cubic foot (gr/dscf). This standard will be met by existing filters on the slag handling system. Consider baghouses with a 5 to 1 or lower air-to-cloth ratio. Provide guarantees and/or other appropriate reasonable assurance of the lowest PM standard that can be met based on manufacturer's information or results from similar well-controlled operations. Revise the Best Available Control Technology (BACT) determination to include an economic analysis of the different size baghouses along with your BACT recommendation.*

As described above, the revised proposed baghouse will have an air-to-cloth ratio of 4.5 to 1. Based on our own investigation, and as indicated in the Department's letter, we believe this baghouse meets BACT based on its design. The baghouse manufacturer, Gencor, has provided a guarantee for the exhaust of the dryer baghouse of 0.04 gr/acf. The typical application of the Gencor dryers is an asphalt batch plant. The Gencor design is intended to meet the New Source Performance for Asphalt Plants (40 CFR 60 Subpart UU). The guarantee for the revised design is presented in the attachments.

9651137Y/4

While the Gencor does not guarantee an exhaust rate below 0.04 gr/acf, Tarmac is agreeable to a lower limit based on the tested performance of the installed dryer at the site. There remains certain unknowns in the drying of blast furnace slag (particle size, operating conditions to ensure proper drying, etc.) which can only be answered through a test program. A proposed test program to determine the actual emissions of the dryer is proposed as follows:

- tests will be performed bi-weekly
- a minimum of 3 tests will be performed
- three test runs will be performed per test
- EPA Method 5 will be utilized
- the testing program will conclude within 10 weeks after the source startup

Upon collection of the results of the testing program, Tarmac will propose an appropriate emissions limit for inclusion into an operating permit. If the tests do not show consistent performance below 0.04 gr/acf, the appropriate emission limit should be set as 0.04 gr/dscf.

Based on the information above, Tarmac does not believe a revision to the BACT is necessary. The proposed baghouse of a 4.5 to 1 air-to-cloth ratio remains as the proposed BACT. Until the testing program demonstrates a grain loading rate below 0.04 gr/dscf, Tarmac maintains the proposed BACT as 0.04 gr/dscf.

3. *The visible emission standard for a baghouse is typically 5 percent opacity. Please provide technical support for a higher standard if the visible emissions from the proposed baghouse will exceed 5 percent opacity.*

As mentioned above, certain unknowns such as particle size of the operation will not be answered until the test program. Pursuant to Rule 62-296.320, the applicable opacity limit is 20 percent. Tarmac will utilize Method 9 to measure opacity. Upon collection of the results of the testing program, Tarmac will propose an appropriate opacity limit for inclusion into an operating permit. Tarmac requests the opacity limit be 20 percent until test results are collected.

4. *Please describe the design and operation of the water application system that will be used to minimize fugitive emissions. Provide a general process flow diagram of the system.*

The facility currently operates several water trucks which spray the paved roads daily. To minimize fugitive emissions from the project, Tarmac will install covers on all conveyors which convey dry slag. The wet slag pile is not expected to generate significant emissions. Potential emissions by the slag pile as presented in the permit application are estimated to be 0.22 TPY. As stated in the permit application, Tarmac will use measured opacity as an indicator of fugitive emissions. If opacity is considered to be above 20 percent, additional measures will be applied. For example, if fugitive emissions are determined to be present by a front end loader, Tarmac may apply water manually in the area of the front end loader movement.

Several pages in the permit application are revised to reflect the above information. Please find the following replacement pages attached (4 sets):

- Attachment A; including all emission tables
- Emission Unit 1; Sections C, D, F, and H
- Emission Unit 2; Sections C and F
- Appendix; Manufacturer Design and Guarantee Information

Tarmac believes the enclosed information provides the Department sufficient information for the completion of processing the permit application. Please contact me at (352) 336-5600 or Mr. Scott Quaas of Tarmac at (954) 425-4165 for further discussions.

Sincerely,

David A. Buff
David A. Buff, P.E.
Principal Engineer

DB/arz

Enclosures

cc: Scott Quaas, Tarmac
File (2)

cc: W. Hanks, BAR
P. Wong, DERM
J. Kahn, SED
EPA
NPS

RECEIVED

**C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)**

JAN 22 1997

Emissions Unit Details

**BUREAU OF
AIR REGULATION**

1. Initial Startup Date:		
2. Long-term Reserve Shutdown Date:		
3. Package Unit: Manufacturer:	Model Number:	
4. Generator Nameplate Rating:	MW	
5. Incinerator Information:		
	Dwell Temperature:	°F
	Dwell Time:	seconds
	Incinerator Afterburner Temperature:	°F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	57	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:	125	tons/hr
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/yr	3,120 hours/yr

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: EU08	
2. Emission Point Type Code: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): Slag Dryer; Slag handling and storage operations	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code: <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W	
6. Stack Height:	30 feet
7. Exit Diameter:	4 feet
8. Exit Temperature:	300 °F

9. Actual Volumetric Flow Rate:	44,486 acfm
10. Percent Water Vapor:	10 %
11. Maximum Dry Standard Flow Rate:	27,820 dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates:	
Zone:	East (km): North (km):
14. Emission Point Comment (limit to 200 characters):	
	Stack data representative of slag dryer. See Attachment A for information on conveyor transfer point baghouse.

**F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)**

Segment Description and Rate: Segment 1 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Material Products; Cement Manufacturing Wet Process; Raw material grinding and drying	
2. Source Classification Code (SCC): <p style="text-align: center;">3-05-006-13</p>	
3. SCC Units: <p style="text-align: center;">tons cement produced</p>	
4. Maximum Hourly Rate: <p style="text-align: center;">125</p>	5. Maximum Annual Rate: <p style="text-align: center;">300,000</p>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): <p style="text-align: center;">Raw material is blast furnace slag. Maximum rates reflect slag throughput.</p>	

Segment Description and Rate: Segment 2 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Mineral Products; Fuel-Fired Equipment; Process Heaters; Distillate Oil	
2. Source Classification Code (SCC): 3-05-900-01	
3. SCC Units: 1000 gallons burned	
4. Maximum Hourly Rate: 0.41	5. Maximum Annual Rate: 1,281
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 0.2	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 140	
10. Segment Comment (limit to 200 characters): No. 2 fuel oil burning in slag dryer.	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 3 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Material Products: Fuel-Fired Equipment; Process Heaters Natural Gas	
2. Source Classification Code (SCC): <p style="text-align: center;">3-05-900-03</p>	
3. SCC Units: <p style="text-align: center;">Million Cubic Feet</p>	
4. Maximum Hourly Rate: <p style="text-align: center;">0.057</p>	5. Maximum Annual Rate: <p style="text-align: center;">179</p>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: <p style="text-align: center;">1,000</p>	
10. Segment Comment (limit to 200 characters): <p style="text-align: center;">Maximum Annual Rate = 224.6 (rounded to 225). Natural gas burning in slag dryer.</p>	

Segment Description and Rate: Segment 4 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Petroleum Product Storage - Fixed Roof Tanks. Distillate Fuel #2 - Working Loss	
2. Source Classification Code (SCC): 4-03-010-21	
3. SCC Units: 1000 gallons throughput	
4. Maximum Hourly Rate: 0.41	5. Maximum Annual Rate: 1,281
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

**F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)**

Segment Description and Rate: Segment 5 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Petroleum Product Storage - Fixed Roof Tanks. Distillate Fuel #2 - Breathing Loss	
2. Source Classification Code (SCC): <p style="text-align: center;">4-03-010-19</p>	
3. SCC Units: <p style="text-align: center;">1,000 gallons</p>	
4. Maximum Hourly Rate:	5. Maximum Annual Rate: <p style="text-align: center;">10</p>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

Segment Description and Rate: Segment of

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Pollutant Detail Information:

1. Pollutant Emitted: PM
2. Total Percent Efficiency of Control: _____ %
3. Potential Emissions: 10 lb/hour 15.6 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5. Range of Estimated Fugitive/Other Emissions: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to <u>1.775</u> tons/yr
6. Emission Factor: Reference: See Attachment A
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
8. Calculation of Emissions (limit to 600 characters): Slag Dryer: 0.04 gr/dscf x 27,820 dscfm x 60 min/hr ÷ 7000 gr/lb = 9.54 lb/hr; 9.54 lb/hr x 3120 hr/yr ton/2000 lb = 14.9 TPY. Dry Slag Conveying System Baghouse = 0.43 lb/hr & 0.67 TPY. Fugitive emissions: estimated in Table 3-2, see Attachment A.
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Slag dryer is limited to 3,120 hours per year. Potential lb/hr emissions above do not include fugitives.

Emissions Unit Information Section 1 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.04 gr/dscf		
4. Equivalent Allowable Emissions:	9.54 lb/hour	14.9 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 9 and Method 5		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Proposed BACT limit for slag dryer.		

B.

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.01 gr/dscf		
4. Equivalent Allowable Emissions:	0.43 lb/hour	0.67 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 9		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Based on baghouse design for conveyor transfer system baghouse.		

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Pollutant Detail Information:

1. Pollutant Emitted: PM10
2. Total Percent Efficiency of Control: _____ %
3. Potential Emissions: 10 lb/hour 15.6 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5. Range of Estimated Fugitive/Other Emissions: [] 1 [] 2 [] 3 _____ to 0.625 tons/yr
6. Emission Factor: Reference: See Attachment A
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 [] 1 [] 2 [] 3 [] 4 [] 5
8. Calculation of Emissions (limit to 600 characters): Slag Dryer: 0.04 gr/dscf x 27,820 dscfm x 60 min/hr ÷ 7000 gr/lb = 9.54 lb/hr; 9.54 lb/hr x 3120 hr/yr ton/2000 lb = 14.9 TPY. Dry Slag Conveying System Baghouse = 0.43 lb.hr & 0.67 TPY. Fugitive emissions are estimated in Table 3-2, Attachment A.
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Slag dryer is limited to 3,120 hours per year. Potential lb/hr emissions above do not include fugitives.

Emissions Unit Information Section 1 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.04 gr/dscf		
4. Equivalent Allowable Emissions:	9.54 lb/hour	14.9 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 9 and Method 5		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Proposed BACT limit for slag dryer.		

B.

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.01 gr/dscf		
4. Equivalent Allowable Emissions:	0.43 lb/hour	0.67 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 9		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Based on baghouse design for conveyor transfer system baghouse.		

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Pollutant Detail Information:

1. Pollutant Emitted: SO2		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	11.7 lb/hour	18.2 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr		
6. Emission Factor:		142 (S) lb/1000 gal
Reference: AP-42		
7. Emissions Method Code: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): 410.6 gal/hr x 142(0.2) lb/1000 gal = 11.7 lb/hr; 11.7 lb/hr x 3,120 hr/yr x ton/2000 lb = 18.2 TPY		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Slag dryer is limited to 3,120 hours per year.		

Emissions Unit Information Section 1 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**Pollutant Detail Information:**

1. Pollutant Emitted: NO_x		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	8.21 lb/hour	128 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr		
6. Emission Factor:		20 lb/1000 gal
Reference: AP-42		
7. Emissions Method Code: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): 410.6 gal/hr x 20 lb/1000 gal = 8.21 lb/hr; 8.21 lb/hr x 3,120 hr/yr x ton/2000 lb = 12.8 TPY		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Slag dryer is limited to 3,120 hours per year.		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**Pollutant Detail Information:**

1. Pollutant Emitted: CO		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	21 lb/hour	3.2 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
[] 1 [] 2 [] 3 _____ to _____ tons/yr		
6. Emission Factor:		5 lb/1000 gal
Reference: AP-42		
7. Emissions Method Code:		
[] 0 [] 1 [] 2 <input checked="" type="checkbox"/> 3 [] 4 [] 5		
8. Calculation of Emissions (limit to 600 characters):		
410.6 gal/hr x 5 lb/1000 gal = 2.05 lb/hr; 2.05 lb/hr x 3,120 hr/yr x ton/2000 lb = 3.2 TPY		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		
Slag dryer is limited to 3,120 hours per year.		

**C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)**

Emissions Unit Details

1. Initial Startup Date:		
2. Long-term Reserve Shutdown Date:		
3. Package Unit: Manufacturer:	Model Number:	
4. Generator Nameplate Rating:	MW	
5. Incinerator Information:		
	Dwell Temperature:	°F
	Dwell Time:	seconds
	Incinerator Afterburner Temperature:	°F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:	213	TPH
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):		
<p>Maximum Process/Throughput Rate: 212.5 TPH (rounded to 213 TPH). Based on 87.5 TPH from Kiln #3, and 125 TPH from slag dryer. See Attachment TA-E02-C5.</p>		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/yr	8,760 hours/yr

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Mineral Products; Cement Manufacturing: Wet Process; Clinker Transfer	
2. Source Classification Code (SCC): 3-05-007-16	
3. SCC Units: Tons Cement Produced	
4. Maximum Hourly Rate: 212.5	5. Maximum Annual Rate: 1,066,500
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): Note: Maximum rates reflect transfer of clinker, and slag and associated operating hours. See Attachment TA-E02-C5.	

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Clinker Storage Silos	
2. Source Classification Code (SCC): 3-05-007-99	
3. SCC Units: tons cement produced	
4. Maximum Hourly Rate: 125	5. Maximum Annual Rate: 300,000
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): Rate represents tons of slag produced.	

ATTACHMENT A
(Revised 1/20/97)

1.0 INTRODUCTION

Tarmac America, Inc. (Tarmac), is proposing to process up to 300,000 tons per year of blast furnace slag at its existing Portland cement plant located in Medley, Florida. In order to process this raw material, a dryer will be installed and fueled by low sulfur fuel oil or natural gas. The slag material will be brought to the facility by truck, dried, and then conveyed via a new conveying system to the existing cement plant clinker handling system and storage silos. The dried slag will be ground and stored in the existing silos for shipment. The slag will be shipped to concrete batch plants for use as a raw material in concrete. This attachment has been revised on January 16, 1997, to reflect a change in the design of the dryer.

In August 1995, Tarmac submitted an air construction (AC) permit application for a slag dryer. Permit AC13-273887 (PSD-FL-230) was issued on October 27, 1995. The existing slag dryer and baghouse were fabricated in 1971. Unfortunately, the existing slag dryer has not demonstrated successful performance. Therefore, Tarmac is applying for a new replacement slag dryer. Tarmac has discussed the air permitting requirements with FDEP. Pursuant to those discussions, the permit application approach is to consider the existing slag dryer as not yet constructed, and therefore not part of the source's baseline emissions. This approach is reasonable when considering that no permit to operate the existing slag dryer has been issued and that the existing dryer will be shut down. The existing slag dryer will be shut down permanently and Permit AC13-273887 (PSD-FL-230) will be surrendered once the proposed new slag dryer becomes operational.

A description of the proposed project is presented in Section 2.0. Existing and future maximum air emissions from affected emissions units at the facility are described in Section 3.0. Air quality regulations applicable to the proposed project are described in Section 4.0. Based on this analysis, the project will be subject to prevention of significant deterioration (PSD) review. However, since the proposed project will utilize best available control technology (BACT), and the increase in emissions of all regulated pollutants due to the project will be less than 50 TPY, the project is exempt from all PSD new source review requirements except application of BACT. The BACT analysis is presented in Section 5.0.

2.0 PROJECT DESCRIPTION

Tarmac, currently operates a portland cement plant located in Medley, Dade County, Florida (refer to Figures 2-1 and 2-2). A single air operating permit (AO13-238048, issued Dec. 17, 1993) regulates air emissions from the cement plant.

Tarmac is proposing to process blast furnace slag from iron foundries into an alternative cement type product. It is currently anticipated that up to 300,000 tons per year (TPY) of slag could be processed. The slag will be delivered to the facility via truck (refer to flow diagram, Figure 2-3). The delivered slag is wet, typically in the range of 15 to 18 percent moisture, hence the need to dry the slag prior to use. The slag will be delivered to an open storage area within the existing cement plant (see Figure 2-3). As needed, it will then be picked up by front end loader and fed into a hopper, onto a conveyor, and then into the proposed slag dryer. The slag dryer will dry the slag to approximately 3 to 5 percent moisture. The maximum process rate for the dryer will be 150 tons per hour (TPH) of wet slag into the dryer.

From the dryer, the slag falls onto a new conveying system and is transferred to the clinker handling system (see Figure 2-4). The new conveying system for the dried slag will be controlled by a new baghouse. The slag will be delivered to the existing Clinker Silos 21, 22, 23, 26, 27 and/or 28. From the silos, the slag will be ground in Finish Mill #4. The ground slag will then be transferred and stored in the existing Cement Silos 7, 8 and/or 9, and then shipped out via the existing Bulk Cement Loadout Units 1 and 2.

Tarmac will utilize a new slag dryer fabricated by Gencor or equivalent. The dryer will burn natural gas or No. 2 fuel oil with a maximum sulfur content of 0.2 percent. Maximum heat input to the dryer will be 57.5 MMBtu/hr. A 10,000 gallon fuel oil storage tank will be installed to store the fuel oil. The unit includes a new baghouse for particulate matter (PM) control. The baghouse for the slag dryer will be a Gencor Model 99 or equivalent. Revised data for the proposed slag dryer baghouse is as follows:

Air flow rate: 44,486 acfm (27,820 dscfm)

Gas temperature: 300°F

Cloth area: 9,896 ft²

Air/cloth ratio: 4.5:1

Cloth type: 14 oz. nomex felt

Cleaning method: Pulse jet

Outlet grain loading: vendor guarantee maximum of 0.04 gr/dscf

A typical analysis of iron slag is presented in Table 2-1. As shown, the slag is primarily composed of calcium oxide (lime) and silicon oxides, with smaller amounts of aluminum oxide.

3.0 AIR EMISSIONS

3.1 EMISSION UNIT 1: SLAG DRYER AND HANDLING OPERATIONS

The maximum PM emissions from the slag dryer are based on an outlet dust loading from the baghouse of 0.04 gr/dscf. Based on the maximum air flow rate of approximately 44,490 acfm at 300°F, the dry standard air flow rate is 27,820 dscfm (assuming about 10 percent moisture).

Maximum operating hours for the dryer will be 3,120 hr/yr. Maximum PM emissions are therefore:

$$27,820 \text{ dscfm} \times 0.04 \text{ gr/dscf} \times 60 \text{ min/hr} / 7000 \text{ gr/lb} = 9.54 \text{ lb/hr}$$

$$9.54 \text{ lb/hr} \times 3,120 \text{ hr/yr} \times \text{ton}/2,000 \text{ lb} = 14.88 \text{ TPY}$$

PM10 emissions are assumed to be equal to PM emissions.

The potential emissions from the new baghouse serving the proposed conveying system are estimated in a similar manner. The design airflow is 5,000 acfm, and the design outlet grain loading is 0.01 gr/acf. Therefore:

$$5,000 \text{ acfm} \times 0.01 \text{ gr/acf} \times 60 \text{ min/hr} / 7000 \text{ gr/lb} = 0.43 \text{ lb/hr}$$

$$0.43 \text{ lb/hr} \times 3,120 \text{ hr/yr} \times \text{ton}/2,000 \text{ lb} = 0.67 \text{ TPY}$$

Emissions of other pollutants from the slag dryer are due to fuel combustion and are presented in Table 3-1. The emissions are based on AP-42 emission factors for fuel oil and natural gas combustion. Potential emissions are presented for both natural gas and No. 2 fuel oil firing.

The slag dryer system will include a transfer point along a new conveying system. PM emissions from the transfer point will be controlled as described previously. The estimated fugitive PM emissions from remaining transfer operations are quantified in Table 3-2. Also included in Table 3-2 are fugitive PM emissions due to wet slag handling, storage, and potential wind erosion from the wet slag storage pile. The derivation of the emissions due to wind erosion are presented in the Appendix.

The maximum PM emissions from the handling sources are 1.8 and 0.6 TPY of PM and PM10, respectively. Therefore, the total potential PM and PM10 emissions from the new equipment are 17.3 (14.88 + 0.67 + 1.8), and 16.2 (14.88 + 0.67 + 0.6) TPY, respectively.

3.2 EMISSION UNITS 2, 3, AND 4: CLINKER/CEMENT STORAGE AND HANDLING SOURCES

The existing facilities affected by the slag utilization consists of Clinker Storage Silos 21, 22, 23, 26, 27 and 28; Finish Mill #4; Cement Silos 7-9; and the Bulk Cement Loadout Units 1 and 2. All of these sources are controlled by baghouses. The current existing PM emissions for these sources, based on average operating hours for 1994-1995, are presented in Table 3-3. The proposed maximum PM emissions from each of these sources is shown in Table 3-4, based on future maximum operating hours of 8,760 hr/yr for clinker and cement production sources and 3,120 hr/yr slag for the dryer system.

In the case of Finish Mill #4, the PM emissions are currently limited by the process weight table according to operating permit AO13-157297. However, the process weight table severely overestimates the actual emissions from these baghouse controlled sources. The baghouse on Finish Mill #4 is designed to achieve an outlet dust loading of 0.01 gr/acf. Therefore, Tarmac is proposing to lower the allowable PM emissions from Finish Mill #4 to 0.01 gr/acf, based on baghouse design.

4.0 REGULATORY APPLICABILITY

4.1 PSD NEW SOURCE REVIEW

A comparison of the net increase in emissions of regulated PSD pollutants due to the proposed project is presented in Table 4-1. The current actual emissions are based on existing facilities which will be affected by the project, i.e., the cement production facilities. The future maximum emissions include emissions due to both new facilities and the existing facilities which will be affected. The PSD significant emission rates are also shown in Table 4-1.

As shown, the net increase in PM and PM10 emissions will exceed the PSD significant emission rate of 25 and 15 TPY, respectively. Therefore, the proposed project is subject to PSD review for PM/PM10. However, because the net increase in emissions for each pollutant due to the proposed project are less than 50 TPY, the proposed modification is exempt from several of the

requirements under PSD new source review [F.A.C. Rule 62-212.400(3)(d)]. The project is exempt from the requirements of Rule 62-212.400(5)(d), (e), (f) and (g), which are the requirements for ambient impact analysis, additional impact analysis, preconstruction air quality monitoring analysis, and post construction monitoring. Therefore, the proposed project is only subject to the control technology review requirements under PSD rules [62-212.400(5)(b) and (c)]. The control technology analysis for PM/PM10 is presented in Section 5.0.

4.2 STATE OF FLORIDA EMISSION STANDARDS

The State of Florida emission limiting standards for aggregate dryers consist of a PM limit based on the process weight table, and a visible emissions limitation, [Rule 62-296.320(4)(a) and (b), F.A.C.]. Based on a maximum process weight input rate of 125 TPH, the process weight table would allow up to 37.5 lb/hr of PM emissions. However, Tarmac will limit PM emissions from the slag dryer to 9.54 lb/hr based on fabric filter control technology (i.e., 0.04 gr/dscf). The regulations limit visible emissions from the dryer and materials handling operations to no more than 20 percent opacity.

Fugitive PM emissions are associated with this project. Pursuant to Rule 62-296 the State of Florida requires reasonable precautions be applied for unconfined emissions of PM, [Rule 62-296.320(4)(c), F.A.C.]. Tarmac will employ reasonable precautions to prevent fugitive dust emissions in regards to the slag drying operation. Tarmac will control dust by covering conveying systems, applying baghouses on transfer points and storing dried slag in silos. Watering will be performed as needed on the wet slag storage pile. Tarmac will use the visible emissions standard of 20 percent as a guide in determining when to employ watering to the storage pile, slag loading hopper, and conveyors/transfer points.

After startup of the operation, if these measures are not sufficient to maintain visible emissions below 20 percent, additional measures will be employed. These measures may include, but may not be limited to, use of a water application system (e.g., water trucks, water hoses) and additional enclosures to reduce entrainment of dust by wind.

4.3 FEDERAL NEW SOURCE PERFORMANCE STANDARDS

Federal new source performance standards (NSPS) have been promulgated by the U.S. EPA for Portland Cement Plants (Subpart F), Volatile Organic Liquid Storage Vessels (Subpart Kb),

nonmetallic mineral processing plants (40 CFR 60, Subpart OOO) and for dryers and calciners in the mineral industries (40 CFR 60, Subpart UUU). Tarmac has reviewed the potentially applicable NSPS contained in 40 CFR 60, and has concluded that Subpart F will apply to one baghouse, and Subparts Kb, OOO, and UUU will not apply to any part of the project. Each potentially applicable NSPS, and the rationale for non-applicability, is discussed below.

In this discussion, the concept of "modification" as defined by the NSPS is referred to.

Modification is defined as any physical or operational change to an existing facility which increases emissions of the NSPS-regulated pollutant on a lb/hr basis. However, the following by themselves are not considered to be modifications:

1. An increase in the production rate, if that increase can be accomplished without a capital expenditure on the facility.
2. An increase in the hours of operation.
3. Use of alternative raw material, if the facility was designed to accommodate that alternative use prior to the applicability date.

4.3.1 Subpart F - Portland Cement Plants

This subpart applies to affected facilities in Portland cement plants, including finish mill systems, finished product storage, conveyor transfer points, and bulk loading systems. These facilities are the potentially affected facilities within the Tarmac cement plant in regards to the slag dryer project.

In regard to the existing conveying system which conveys clinker, the processing of slag could potentially increase the particulate matter (PM) emissions on a lb/hr basis. However, no capital expenditure on the conveying system is necessary to accommodate the slag, and the slag is a raw material that the facility was designed to accommodate as of August 17, 1971 (the cement plant raw material conveying system was built prior to August 17, 1971). The conveyor transfer points associated with the new conveying system for the slag from the pile through the dryer and into the clinker handling systems will be required to meet 10 percent opacity limits.

In regard to the existing finish mill (Finish Mill #4), finished product storage and conveying, and bulk loading and conveying systems, the processing of slag would not result in any increase in PM emissions on a lb/hr basis, since finished Portland cement and the slag will have similar

particle size and moisture characteristics. Hourly production rates will not increase above current rates, no capital expenditure on the systems are necessary to accommodate the slag, and the slag is a material that the facility was designed to accommodate as of August 17, 1971 (the cement plant raw material conveying system was built prior to August 17, 1971). It is noted that Clinker Silos 21-23 & 26-28, Finish Mill 4, and Bulk Cement Loadout Units 1-2 are already subject to Subpart F.

In conclusion, the slag project will not change the current Subpart F designations for the existing equipment at the cement plant. The proposed slag conveying system, however, will be subject to NSPS requirements.

4.3.2 Subpart Kb - Volatile Organic Liquid Storage Vessels

Tarmac will be constructing a 10,000 gallon fuel oil storage tank. The minimum size tank covered by Subpart Kb is 40 m³, which is 10,568 gallons. Therefore, the Tarmac tank will be below the applicable size threshold.

4.3.3 Subpart UUU - Calciners And Dryers in Mineral Industries

This subpart applies to dryers at mineral processing plants. Mineral processing plants are facilities that produce or process any of the following minerals, their concentrates, or any mixture the majority (>50%) of which is any of the following materials, or a combination of these materials. For clarification, a description of each material is provided, taken from the Background Information Document (BID) on the proposed standards:

Alumina- material chemically extracted from bauxite

Ball clay- material composed primarily of kaolinite and quartz

Bentonite- clay consisting primarily of smectite materials

Diatomite- Chalky, sedimentary rock formed by diatoms

Feldspar- Ingenous rocks consisting mainly of aluminum silicates

Fire Clay- Composed of hydrous silicates of aluminum

Fuller's earth- Composed mainly of nonplastic clay or clay like materials

Gypsum- Calcium sulfate dihydrate (occurring naturally)

Industrial sand- Naturally occurring rock particles, 4.8 mm to 74 μm in size

Kaolin- Clay composed primarily of kaolinite

Lightweight aggregate- Calcined clay, shale or slate
Magnesium compounds- From natural brine solutions, magnesite deposits
Perlite- Volcanic rock
Roofing granules- Rock of fired clay used in making roofing shingles
Talc- A hydrous magnesium silicate material
Titanium dioxide- Pigments produced by the chloride or sulfate process
Vermiculite- Aluminum-iron-magnesium silicates that resemble mica

Nearly all of these materials are naturally occurring and are obtained through mining operations.

Tarmac will not process any of these materials in the slag dryer. In the case of the lightweight aggregate category, some clarification is warranted. The BID states that the lightweight aggregate (LWA) industry encompasses the processing of clay-like materials into low density product (see attached excerpt from the BID). LWA is produced by calcining clay, shale or slate. The BID mentions that substitutes for the more common raw materials in the production of LWA products are natural pumice and blast furnace slag. However, the BID only addresses calciners used to produce LWA, and does not address dryers used to only dry LWA, nor does it address processing of the alternative raw materials. Considering the above aspects, it is concluded that Subpart UUU does not apply to the proposed Tarmac slag dryer. Excerpts from the BID are presented in the Appendix.

4.3.4 Subpart OOO - Nonmetallic Mineral Processing Plants

This subpart applies to certain processing operations at nonmetallic mineral processing plants. Nonmetallic mineral processing plants are facilities that crush or grind any nonmetallic mineral, wherever located, including at Portland cement plants. Tarmac operates a nonmetallic mineral processing plant adjacent to the existing cement plant. However, the proposed project will be located at the cement plant and no construction or change in the method of operation will take place at the adjacent nonmetallic mineral processing plant. Portions of the adjacent plant are already subject to the Subpart OOO standards. Included in Subpart OOO is a list of covered nonmetallic minerals. This list is similar to the minerals listed under Subpart UUU. Blast furnace slag is not included in this list (nor is lightweight aggregate). As a result, it is concluded that Subpart OOO does not apply to the proposed Tarmac slag dryer.

5.0 BEST AVAILABLE CONTROL TECHNOLOGY ANALYSIS

5.1 REQUIREMENTS

The 1977 Clean Air Act Amendments established requirements for the approval of preconstruction permit applications under the PSD program. One of these requirements is that the best available control technology (BACT) be installed for applicable pollutants. BACT determinations must be made on a case-by-case basis considering technical, economic, energy, and environmental impacts for various BACT alternatives. To bring consistency to the BACT process, the EPA developed the so called "top-down" approach to BACT determinations. As mentioned previously, this approach has been challenged in court and a settlement agreement reached which requires EPA to initiate formal rulemaking on the top down approach. Nonetheless, in the absence of formal rules related to this approach, the "top-down" approach is followed in the Tarmac BACT analysis.

The first step in a top-down BACT analysis is to determine, for each applicable pollutant, the most stringent control alternative available for a similar source or source category. If it can be shown that this level of control is not feasible on the basis of technical, economic, energy, or environmental impacts for the source in question, then the next most stringent level of control is identified and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any technical, economic, energy, or environmental consideration.

In the case of the proposed modification at Tarmac, PM(TSP)/PM10 require BACT analysis. Only the slag dryer system requires BACT analysis as this is the only emissions units being added or physically modified as part of the project. The following sections present the BACT analysis.

5.2 BACT ANALYSIS FOR PM EMISSIONS

5.2.1 Slag Dryer

Tarmac is proposing a PM emission limit of 0.04 gr/dscf as BACT. This limit is equivalent to the new source performance standards (NSPS) which have been promulgated for asphalt concrete plants (40 CFR 60, Subpart I). The asphalt plant NSPS is based on fabric filter or venturi scrubber control technology, although fabric filter technology has been found to more consistently achieve the NSPS level. A second review of the asphalt plant NSPS conducted by EPA in 1985 demonstrated that fabric filter control technology was the best demonstrated technology to comply

with the NSPS. Of 26 plants surveyed with fabric filter control, the typical air to cloth ratio was 6:1, and the most common filter fabric was 14 ounce weight nomex.

The new Tarmac slag dryer and baghouse serving the slag dryer will be fabricated by Gencor, or equivalent. The dryer is designed on the basis of an asphaltic concrete or aggregate dryer with fabric filter control. The air to cloth ratio is approximately 4.5:1, and 14 ounce nomex bags (or equivalent) will be used. Therefore, it is believed that the asphalt NSPS of 0.04 gr/dscf can be achieved by the Tarmac system, although the drying of slag could cause higher inlet dust loadings to the fabric filter compared to an asphaltic dryer.

Currently, the only information available concerning slag dryers is that from the existing Tarmac slag dryer installation. It is known that this existing system has experienced PM emission rates of approximately 0.04 gr/dscf. It is also believed that the baghouse serving the existing slag dryer is not operating properly. It is therefore believed that outlet dust loadings lower than 0.04 gr/dscf could be achievable by the new system; however, the actual performance cannot be accurately predicted based on existing information. Gencor has based their emission guarantee on the asphalt plant NSPS of 0.04 gr/dscf.

A review of previous BACT determinations for PM emissions from asphaltic dryers and similar materials dryers was conducted. The results of this review is presented in Table 5-1. It is noted that all determinations found were issued prior to 1991. However, all previous BACT determinations for asphalt plants were equal to the NSPS of 0.04 gr/dscf and were based on baghouse control technology. This demonstrates that baghouse technology is the best technology for application on asphalt plants and similar dryers.

A number of other determinations were found in the BACT Clearinghouse for various material dryers. However, many of these were expressed in terms not readily converted to a grain loading. In addition, these dryers were for materials other than slag, and the differences and/or similarities between these facilities and Tarmac are not readily definable.

In conclusion, Tarmac's proposed PM emission limit of 0.04 gr/dscf is equivalent to all previous BACT determinations for asphalt plant dryers. Considering the uncertainty associated with actual emissions from the drying of wet slag, a lower PM limit cannot be proposed at this time.

However, Tarmac is willing to conduct a testing program on the new slag dryer in order to set the appropriate BACT emission limit. As required by the existing slag dryer permit, a testing plan and protocol will be submitted to FDEP for approval prior to conducting the test program.

The proposed VE limitation is 20 percent opacity, which is equivalent to the NSPS limit for asphalt plants. This opacity limitation is also equivalent to the State of Florida limitation contained in F.A.C. 62-296.310.

5.2.2 Materials Handling Operations

Tarmac will employ reasonable precautions to prevent fugitive emissions from the handling and storage of slag. These measures will include use of enclosures where feasible, and watering as needed to minimize fugitive dust emissions.

The existing materials handling system to be used for slag conveying and transfer are not being physically modified. Therefore, according to 40 CFR 52.21, BACT does not apply to these emission units.

Table 3-1. Maximum Emissions Due to Fuel Combustion for Proposed Slag Dryer, Tarmac America

Parameter	No. 2 Fuel Oil		Natural Gas	
OPERATING DATA^a				
Operating Time	3,120 hr/yr		3,120 hr/yr	
Heat Input Rate	57.5 MMBtu/hr		57.5 MMBtu/hr	
Heat Value	140,000 MMBtu/gal		1000 Btu/scf	
Hourly Fuel Use	410.6 gal/hr		57.48 MMscf/hr	
Annual Fuel Use	1,280,983 gal/yr		179,338 MMscf/yr	
Max Sulfur Content	0.2 Wt%		0.01 gr/scf	

Pollutant	Emission Factor ^b	Fuel Oil		Natural Gas		
		Maximum Emissions		Maximum Emissions		
		lb/hr	TPY	Emission Factor ^b	lb/hr	TPY
EMISSION DATA						
SO ₂	142*S lb/Mgal ^c	11.66	18.19	0.60 lb/MMscf	0.034	0.054
NO _x	20 lb/Mgal	8.21	12.81	140.00 lb/MMscf	8.05	12.55
CO	5 lb/Mgal	2.05	3.20	35.00 lb/MMscf	2.01	3.14
NM VOC	0.2 lb/Mgal	0.082	0.13	3.83 lb/MMscf	0.22	0.34
Sulfuric Acid Mist	0.1225 lb/Mgal	0.050	0.08	NA	--	--
Lead-Total	8.9E-06 lb/MMBtu	5.12E-04	7.98E-04	NA	--	--
Mercury	3.0E-06 lb/MMBtu	1.72E-04	2.69E-04	NA	--	--
Beryllium	2.5E-06 lb/MMBtu	1.44E-04	2.24E-04	NA	--	--

Note: NA = not applicable.

a Fuel oil use is based on 140,000 Btu/gal for 0.2% S oil. Heat Input Rate is based on 0.48 MMBtu/ton and 150 ton/hr throughput

b Emission factors are based on AP-42 5th Edition, Tables 1.3-2, 1.3-4, and 1.3-11 for oil use and 1.4-1 and 1.4-3 for gas. NMVOC factor for gas is reduced by 34% to reflect presence of methane.

c "S" denotes the weight % sulfur in fuel oil; max sulfur content = 0.2%

Table 3-2. Fugitive Dust Emission Estimates For Slag Project, Tarmac America, Inc.

SOURCE	TYPE OF OPERATION	M MOISTURE CONTENT (%)	U WIND SPEED (MPH)	NCONTROLLED		CONTROLLED		MAXIMUM THROUGHPUT (TPY)	MAXIMUM ANNUAL PM(TSP) EMISSIONS (TPY)	PM10 SIZE MULT.	MAXIMUM ANNUAL PM10 EMISSIONS (TPY)
				EMISSION FACTOR ^a (LB/TON)	CONTROL	EMISSION FACTOR (LB/TON)	CONTROL EFFICIENCY (%)				
TRUCK DUMP/RADIAL STACKER	BATCH DROP	3	9	0.00389	NONE	0	0.00389	300,000	0.584	0.35	0.204
FRONT-END LOADER-TO-HOPPER	BATCH DROP	3	9	0.00389	NONE	0	0.00389	300,000	0.584	0.35	0.204
HOPPER-TO-BELT	CONTINUOUS DROP	3	9	0.00389	NONE	0	0.00389	300,000	0.584	0.35	0.204
SLAG STORAGE PILE	WIND EROSION	--	--	--	NONE	0	--	--	0.022	^b 0.5	0.011
TOTAL									1.775		0.625

Notes:

^a Batch Drop and Continuous Drop Emission Factors are computed from AP-42 (USEPA, 1988), Section 11.2.3:

$$E = 0.0032 \times (U/5)^{1.3} / (M/2)^{1.4} \text{ lb/ton}$$

^b Refer to Appendix for derivation.

Table 3-3. Actual 1994-1995 Particulate Emissions From Affected Point Sources, Tarmac America, Inc.

Application Unit ID	Emission Unit/Point	Emission Point ID	Control Equipment Type	Maximum Process Rate (TPH)	Air Flow Rate (cfm)	PM/PM10 Emission Factor	PM/PM10 Emissions		
							(lb/hr)	(hr/yr) ^a	(TPY)
EU 2	<u>Clinker Handling System</u> Conveyor/Bucket Elevator	K-447/K347	Baghouse	300	5,000	0.01 gr/acf	0.43	7,425	1.59
EU 2	<u>Clinker Storage Silos</u> Clinker silos 21, 22, 23, 26, 27 & 28	K-633	Baghouse	300	1,500	0.01 gr/acf	0.13	7,425	0.48
EU 3	<u>Finish Mill #4</u> Ball mill/mill sweep	F-430	Baghouse	150	30,000	0.01 gr/acf	2.57	2,240	2.88
	Belt conveyor/separator/cement pump	F-432	Baghouse	150	17,000	0.01 gr/acf	1.46	2,240	1.63
	Clinker/gypsum conveyors	F-603	Baghouse	150	8,000	0.01 gr/acf	0.69	2,240	0.77
	Clinker/gypsum conveyors	F-604	Baghouse	150	8,000	0.01 gr/acf	0.69	2,240	0.77
	Clinker/gypsum conveyors	F-605	Baghouse	150	4,000	0.01 gr/acf	0.34	2,240	0.38
EU 4	<u>Cement Storage Silos 1-9</u> Cement Silos 7-9	F-512	Baghouse	150	10,000	0.01 gr/acf	0.86	5,973	2.56
EU 5	<u>Bulk Cement Loadout Units 1 & 2</u> Railcar/Truck Unit 1	B-110	Baghouse	300	3,000	0.01 gr/acf	0.26	2,512	0.32
	Truck Unit 2	B-210	Baghouse	300	3,000	0.01 gr/acf	0.26	2,512	0.32
TOTAL						TOTAL =	7.67		11.70

^a Reflects the average of annual hours of operation during 1994 and 1995.

Table 3-4. Future Maximum Particulate Emissions From Affected Point Sources, Tarmac America, Inc.

Application Unit ID	Emission Unit/Point	Emission Point ID	Control Equipment Type	Maximum Process Rate (TPH)	Air Flow Rate (cfm)	PM/PM10 Emission Factor	PM/PM10 Emissions			
							(lb/hr)	(hr/yr) ^a	(TPY)	
EU 1	Slag Dryer	SLAG	Baghouse	125	27,820(a)	0.04 gr/dscf	9.54	3,120	14.88	
EU 1	<u>Dry Slag Conveying System</u> Conveyor/Transfer Tower	Unknown	Baghouse	125	5,000	0.01 gr/acf	0.43	3,120	0.67	
EU 2	<u>Clinker Handling System No. 3</u> Conveyor/Bucket Elevator	K-347	Baghouse	125	5,000	0.01 gr/acf	0.43	8,760	1.88	
	Conveyor/Bucket Elevator	K-447	Baghouse	125	5,000	0.01 gr/acf	0.43	8,760	1.88	
EU 2	<u>Clinker Storage Silos</u> Clinker silos 21, 22, 23, 26, 27 & 28	K-633	Baghouse	212.5	1,500	0.01 gr/acf	0.13	8,760	0.56	
EU 3	<u>Finish Mill #4</u> Ball mill/mill sweep	F-430	Baghouse	150	30,000	0.01 gr/acf	2.57	8,760	11.26	
	Belt conveyor/separator/cement pump	F-432	Baghouse	150	17,000	0.01 gr/acf	1.46	8,760	6.38	
	Clinker/gypsum conveyors	F-603	Baghouse	150	8,000	0.01 gr/acf	0.69	8,760	3.00	
	Clinker/gypsum conveyors	F-604	Baghouse	150	8,000	0.01 gr/acf	0.69	8,760	3.00	
	Clinker/gypsum conveyors	F-605	Baghouse	150	4,000	0.01 gr/acf	0.34	8,760	1.50	
EU 4	<u>Cement Storage Silos 1-9</u> Cement Silos 7-9	F-512	Baghouse	150	10,000	0.01 gr/acf	0.86	8,760	3.75	
EU 4	<u>Bulk Cement Loadout Units 1 & 2</u> Railcar/Truck Unit 1	B-110	Baghouse	300	3,000	0.01 gr/acf	0.26	8,760	1.13	
	Truck Unit 2	B-210	Baghouse	300	3,000	0.01 gr/acf	0.26	8,760	1.13	
TOTAL								8.53		51.03

Notes:

(a) Airflow reflects dscfm.

Table 4-1. Emissions Increase Associated With Slag Project, Tarmac America, Inc.

Regulated Pollutant	Affected Point Sources				PSD Significant Emission Rate (TPY)	PSD Review Applies?
	(A) Fugitives From Slag Handling (TPY)	(B) Current Actuals (TPY)	(C) Future Maximums (TPY)	(A-B+C) Net Increase In Emissions (TPY)		
Particulate matter (TSP)	1.78	11.70	51.03	41.1	25	Yes
Particulate matter (PM10)	0.62	11.70	51.03	39.9	15	Yes
Sulfur dioxide	--	--	18.19	18.19	40	No
Nitrogen oxides	--	--	12.81	12.81	40	No
Carbon monoxide	--	--	3.20	3.20	100	No
Volatile organic compounds	--	--	0.34	0.34	40	No
Sulfuric acid mist	--	--	0.08	0.08	7	No
Total reduced sulfur	--	--	--	--	10	No
Lead	--	--	2.7E-04	2.7E-04	0.6	No
Mercury	--	--	2.2E-04	2.2E-04	0.1	No
Beryllium	--	--	0.0E+00	0.0E+00	4.0E-04	No
Fluorides	--	--	--	--	3	No
Asbestos	--	--	--	--	0.007	No
Vinyl Chloride	--	--	--	--	1	No

Table 5-1. Summary of BACT Determinations for PM Emissions From Dryers of Aggregates/Non-Metallic Minerals

Plant Type/Company	Comments	State	Permit #	Permit Issue Date	New Source? (a)	Throughput	Emission Limit	Control Equipment
<u>Asphalt Plants</u>								
Lee Hy Paving Corp.		VA	50060	27-Jan-89	Yes	240,000 ton/yr	0.04 GR/DSCF	Baghouse
Lee Hy Paving Corp.		VA	(5)40031	14-Nov-86	Yes	200 ton/hr	0.04 GR/DSCF	Baghouse
B.P. Short & Sons Paving Co.		VA	50041	15-Apr-87	Yes	250 ton/yr	0.04 GR/DSCF	Baghouse
Blakemore Construction Corp.		VA	(3)40766	24-Jun-88	Yes	300 ton/yr	0.04 GR/DSCF	Baghouse
<u>Concrete Plant</u>								
Quikrete Co.		CT	145-0017	5-May-89	No	100,000 lb/hr	0.015 lb/hr	Baghouse
<u>Lime Plants</u>								
Austinville Limestone Co.		VA	10213	16-Sep-87	Yes	315,000 ton/yr	10.5 lb/hr	Fabric Filter
Dan River, Inc.		VA	30242	03-Dec-87	Yes	0	1.62 lb/hr	Baghouse
<u>Stone Crushing Plant</u>								
Luck Stone Corp.	Dryer Overhead Vent (2)	VA	50429	15-Aug-85	Yes	11,025 ton/yr	4.33 ton/yr (each)	Baghouse
	Dryer Bottom Vent (4)					11,025 ton/yr	3.3 ton/yr (each)	Baghouse
<u>Miscellaneous Plants</u>								
Englehard Corp.	Calciner/Spray Dryer	GA	3295-158-4632-0	18-Nov-87	No	20 ton/hr	0.025 GR/DSCF	Baghouse after start-up
Manville Sales Corp., PLT #1		OH	04-545	N/A	Yes	2,600 lb/hr	0.37 lb/hour	Fabric Filter
Kyanite Mining Corp.		VA	30677	10-Jul-85	Yes	48 MMBtu/hr	30.91 ton/yr	N/A
ICI Americas, Inc.		VA	50418	26-Jan-89	Yes	1 ton/hr	0.004 lb/hr	Bagfilters
Omya, Inc.	Dryers, Spray, (2)	VT	VT-009	27-Jul-90	No	20 ton/hr (each)	1.32 lb/hr	Multiple Cyclones
	Dryers, Flash, (2)					6 ton/hr (each)	0.02 GR/DSCF	Fabric Filter
Corona Ind.	Sand Dryer	CA	147795	25-Nov-86	Yes	100 ton/hr	72 lb/day	Cyclone Separator & Scrubber
Ocean Salt Co., Inc.	Salt Dryer	CA	157476	N/A	No	200 ton/day	26 lb/day	Scrubbers
Beadex MFG Co., Inc.	Calcium Carbonate Dryer	CA	183480	18-Sep-89	Yes	406,000 lb/day	150 lb/day	Baghouse

(a) Indicates if emission unit subject to BACT was new construction (yes) or a modification (no).

Source: BACT/RACT/LAER Clearinghouse Database, June 1995.

APPENDIX

MANUFACTURER DESIGN AND GUARANTEE INFORMATION

8.9 EXTENDED WARRANTY TO THE ORIGINAL PURCHASER. In the event the contract specifies any of the equipment listed below, Gencor will extend the warranty on the items for the period indicated. Gencor will repair or replace the items in the event of premature wear only, provided the Purchaser furnishes documented proof of tonnage processed. In all cases, it will be the Purchaser's responsibility to pay for any disassembly, installation, and freight, F O B factory, for the replacement of such components.

- a. Standard Transfer Conveyor Chain - 750,000 ton prorated warranty on the double strand 4 in. pitch A3433 roller chain (rollers, bushings, and pins).
- b. Standard Transfer Conveyor Slat - One million ton unconditional warranty on the 3/4 in. thick AR slats.
- c. Single Piece Self-Erect Silo, Standard Slat Conveyor Floor System - One million ton unconditional warranty on the slat conveyor floor system. This warranty does not cover floor castings that are broken or otherwise damaged through abuse or misuse of the slat conveyor.
- d. Single Piece Self-Erect Silo, Standard Heavy-Duty Main Slat Conveyor Chain - One million ton prorated warranty on the single strand 6 in. pitch 9856 roller chain (rollers, bushings, and pins).
- e. Single Piece Self-Erect Silo, Standard Slats - One million ton unconditional warranty on the 3/4 in. thick AR slats.
- f. Two Piece Self-Erect Silo, Standard Slat Conveyor Floor System - Two million tons or seven years, whichever occurs first, unconditional warranty on the slat conveyor floor system. This warranty does not cover floor castings that are broken or otherwise damaged through abuse or misuse of the slat conveyor.
- g. Two Piece Self-Erect Silo, Standard Slats - One million ton unconditional warranty on the 3/4 in. thick AR slats.
- h. Heavy-Duty Hot Mix Bucket Elevator, Chain - One million ton prorated warranty on the single or double strand 6" pitch, 9856 roller chain (rollers, bushings, and pins).
- i. Heavy-Duty Hot Mix Bucket Elevator, Standard Bucket - One million ton prorated warranty on the bolt-on 3/8" abrasion steel buckets, provided the elevator is equipped with the standard cleanout system and the Purchaser has operated the cleanout system in the manner prescribed in the OSM manual.
- j. Standard Heavy-Duty Main Slat Conveyor, Floor System - Three million tons or seven years, whichever occurs first, unconditional warranty on the slat conveyor floor system. This warranty does not cover floor castings that are broken or otherwise damaged through abuse or misuse of the slat conveyor.
- k. Standard Heavy-Duty Main Slat Conveyor, Chain - One million ton prorated warranty on the single strand 6" pitch 9856 roller chain (rollers, bushings, and pins).
- l. Standard Heavy-Duty Main Slat Conveyor, Standard Slats - One million ton unconditional warranty on the 3/4 in. thick slats.
- m. Medium-Duty Slat Conveyor, Standard Slats - One million ton unconditional warranty on the 3/4 in. thick slats.
- n. Medium-Duty Slat Conveyor, Chain - 500,000 ton prorated warranty on the double strand 4" pitch A3433 roller chain (rollers, bushings, and pins).

8.10 USED EQUIPMENT - WARRANTY DISCLAIMER. Applicable to all used equipment sold without exception. All used equipment is sold strictly "As Is - Where Is". With the exception of life warranty, there are no other warranties given, expressed, or implied, including the implied warranty of merchantability or fitness for use. Any damage or loss whatsoever, of any kind or nature, including but not limited to any consequential or incidental damages, are the responsibility of the Purchaser. Seller specifically disclaims all liability claims, including but not limited to claims made pursuant to section 402A of restatement of "Torts".

Purchaser has the sole responsibility to provide the necessary labor and supervision to properly match-mark the plant components during the dismantling process and, to see that said used equipment is properly handled, dismantled and loaded - irrespective of whether it is the Seller, its agents, or third parties actually performing the dismantling and loading - and to provide the correct tractor - trailer haul units to remove component on a timely basis.

7. EMISSION CONTROL WARRANTY

Gencor provides this warranty with the purchase of pollution control equipment, either a baghouse (BH), or a venturi wet scrubber (VWS) when used in the wet mode for use with a Gencor asphalt plant (Plant). This emission control warranty is not offered on the above pollution control equipment if it is not interfaced with a Gencor burner, control and other related equipment. Terms which are not otherwise defined herein are used as defined in the Sales Order.

ALL STATES, INCLUDING CANADA:

Gencor warrants to Purchaser that with proper use and subject to the conditions described below, the Plant, when equipped with a properly sized Gencor supplied BH or VWS, will operate in compliance with the U.S. Environmental Protection Agency (EPA) standards for asphalt concrete plants of .04 GR/DSCF particulate emission and 20 percent opacity (40 C.F.R. 60.90 (a) (1) and (2)).

This warranty is strictly conditioned upon the following:

Gencor Industries, Inc.
Proposal No. B-96-07-9438
July 17, 1996

Acceptance

Page 16

7.1 Compliance with federal EPA particulate standards shall be determined by a performance evaluation test (the "Test") which shall be conducted within ninety days of shipment from Gencor's factory or sixty days from initial firing, whichever comes first, of the BH or VWS. Failure to conduct the tests in a timely fashion will void this warranty.

7.2 The Test shall only be conducted by professional, licensed personnel approved by Gencor. For baghouses, the Test shall include at least one black light test prior to any tests. On either baghouses or wet scrubbers there will be at least one preliminary test for particulates using the standard EPA method 5 test procedure conducted at least one full day prior to the official EPA test. All tests are to be observed by the Gencor Service Engineer.

7.3 Results of the preliminary Test must be available within twelve hours prior to the time the official Test is taken.

7.4 All costs associated with all tests including the preliminary and official EPA Tests, including plant preparation, clearing, permits, and necessary adjustments will be paid by the Purchaser.

7.5 All scheduling of the preliminary and official EPA Tests will be the responsibility of the Purchaser.

7.6 All costs associated with cancellations and/or rescheduling, regardless of the cause, will be the responsibility of the Purchaser.

7.7 A service engineer, provided by Gencor, shall be on site for the duration of the Test. The cost of the Service Engineer will be borne by Gencor for the original tests for a period up to three man-days in one trip. If it becomes necessary for additional tests to be run at a later date for any reason, the purchaser will pay the costs for the service engineer using standard Gencor service rates in effect at the time. Gencor shall be notified of the scheduled Test at least seven days in advance of the Test date. Any change in the Test schedule shall be at Purchaser's expense. This warranty will be null and void if the test is not conducted within sixty days after initial firing of the plant or ninety days after shipment from Gencor, whichever comes first. The purchaser will be responsible for placing the equipment in an as new condition prior to the test.

7.8 Gencor will accept only an established, credible testing firm which has high quality, portable testing equipment. It will be the responsibility of the appointed testing laboratory to have the capabilities of analyzing the preliminary and official test results on-site.

7.9 The Plant shall be prepared by the Purchaser's employees at the Purchaser's expense, maintained, and operated in accordance with Gencor's written and verbal instruction to Purchaser and within the parameters indicated on Gencor's specification sheet.

7.10 The Test shall only be conducted with one group of materials which shall be a) all virgin materials OR b) a minimum of 50% virgin materials and a maximum of 50% recycle materials.

7.11 The asphaltic concrete ingredients utilized during the Test and preliminary Test shall be:

- a. Aggregate which is natural, clean, and normal for asphalt concrete production.
- b. Asphalt cement which is of a type having a low paraffin content and high temperature smoke point.

IMPORTANT - It will be the Purchaser's responsibility to provide asphalt cement which is of a type having a low paraffin content and high temperature smoke point. The smoke point must be a minimum of 20 degrees Fahrenheit above the mix discharge temperature.

- c. The material should also conform to the following criteria:
 1. The total fines in aggregates on a dry basis less than 200 mesh will be 5% or less.
 2. The total fines less than 10 microns (approximately 2000 mesh equivalent) will be no greater than 1% of the total fines less than 200 mesh.
 3. The aggregates processed do not contain any constituents (less than .01% by weight) other than water that can be volatilized at less than 1000F.
 4. The baghouse differential pressure must be maintained between 2.5 and 3.5" wc during the testing period.

If, with satisfaction of the above conditions, the BH or VWS equipped Plant fails to perform in accordance with this warranty, Gencor will, at its option, take one or more of the following actions.

1. Recommend the changes, adjustments, and repairs necessary for either the BH or DC or VWS to fulfill this warranty.
2. Provide modification of or a like replacement of either the BH or VWS upon return of the BH or DC or VWS F.O.B. Gencor's designated shipping destination.

If the BH or DC or VWS equipped Plant passes the Test on either all virgin materials or with recycled materials (50% maximum), the Plant shall be deemed to comply with and Gencor shall be deemed to have fulfilled its obligations under this warranty.

THE WARRANTY AND LIABILITIES OF GENCOR SET FORTH HEREIN ARE EXCLUSIVE OF ANY OTHER REPRESENTATIONS REGARDING EMISSIONS, POLLUTION CONTROL, OR OTHER ENVIRONMENTAL REQUIREMENTS. THIS WARRANTY SUPPLEMENTS, AND, UNLESS OTHERWISE EXPRESSLY PROVIDED FOR HEREIN, IS SUBJECT TO ALL CONDITIONS STATED IN THE STANDARD GENCOR CORPORATION WARRANTY WHICH IS ATTACHED HERETO.

MEMORANDUM

BUREAU OF
AIR REGULATION

BUREAU OF
AIR REGULATION

JAN 2 1 1997

RECEIVED
RECEIVED

To: Willard Hanks
DARM

From: Ewart Anderson
DERM

Date: January 2, 1997

Subject: Tarmac America, Inc
Replacement Slag Dryer

We have reviewed the Tarmac America, Inc. permit application, 0250020-001 AC, for constructing a replacement slag dryer at the Pennsuco cement plant in Dade County and offer the following comments.

- The applicant has requested a limit of 3120 hours per year operation for the slag dryer. It is therefore necessary that the operating permit, when issued, include provisos for reporting and recordkeeping.
- The submittal does not reference the federal regulation Subpart F, Standards of Performance for Portland Cement Plants, which in Section 40 CFR 60.62(c) states that, a portland cement plant component facilities other than kilns and clinker coolers must meet an opacity limit of 10%. Please request an explanation as to why an opacity limit of 20% is stated for the slag dryer.
- Tarmac proposes a PM emissions limit of 0.04 gr./dscf as BACT for the slag dryer. Their rationale is that the operation is similar to that of an asphalt plant. We disagree with this reasoning because an asphalt plant's process materials contain more moisture than that of slag, thereby resulting in a lesser potential for PM emissions. We feel that the PM emissions BACT of 0.025 gr./dscf established for the Englehard Calciner/Spray Dryer shown in Table 5-1 of the application is appropriate and that that limit should be the maximum allowed. It should be noted that the production rate of the Englehard facility is one fifth of that proposed for the slag dryer.
- Annual fugitive dust emissions estimates are indicated as being 1.775 TPY for PM and 0.625 TPY for PM10. The factors used for these calculations were obtained from the 1988 issue of AP42. In the 1995 issue of AP42, Table 12.5-4 lists the emissions factor of 0.26 lb./ton for batch handling operations utilizing front end loaders to work high silt slag piles. For this project, using the updated factor and given the proposed slag throughput of 300,000 TPY, particulate emissions would exceed 11 TPY.
- It is necessary that the slag be stored on an impervious bed to preclude the leaching of contaminants into the groundwater. The opacity limit for the slag piles should be 10%. Also, a permanent dust suppressant system, such as a water sprinkling system, should be provided. Trafficked areas should be paved.
- The applicant should be advised that additional local permits are required for the fuel tankage and slag storage operations. The DERM Waste Management Division should be contacted.

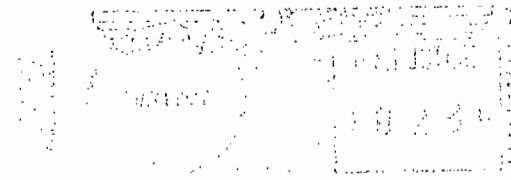
cc: Al Linero, P.E., DARM ✓
Joe Kahn, P.E., FDEP, West Palm Beach



248955



METROPOLITAN DADE COUNTY, FLORIDA
ENVIRONMENTAL RESOURCES MANAGEMENT
AIR QUALITY MANAGEMENT DIVISION
33 SW 2nd AVENUE SUITE 900
MIAMI FLORIDA 33130-1540
161.01-37 9/96



MR. AL LINERO
CHIEF, AIR SECTION
BUREAU OF AIR REGULATION
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

AUTO

32399





Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
December 30, 1996

Virginia B. Wetherell
Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Scott Quaas
Environmental Manager
Tarmac America, Inc.
455 Fairway Drive
Deerfield Beach, Florida 33441

Re: DEP File No. 0250020-001-AC
Tarmac Slag Dryer System

Dear Mr. Quaas:

The Department has reviewed your application for permit to construct a new blast furnace slag drying and handling system at your plant in Medley, Dade County, Florida. Pursuant to Rule 62-4.070, F.A.C., additional information is needed to process this application. Please provide responses to the following comments.

The proposed baghouse appears undersized for this installation. The proposed baghouse is designed for 48,000 cubic feet per minute (cfm) with a 5.67:1 air to cloth ratio. Your application proposes to treat 54,600 acfm which results in an air to cloth ratio of 6.4:1. Baghouses such as those in this system typically have an air to cloth ratio of 4.5:1.

Please investigate the use of a baghouse that can meet a particulate matter (PM) emission standard as low as 0.01 grains per dry standard cubic foot (gr/dscf). This standard will be met by existing filters on the slag handling system. Consider baghouses with a 5 to 1 or lower air to cloth ratio. Provide guarantees and/or other appropriate reasonable assurance of the lowest PM standard that can be met based on manufacturer's information or results from similar well-controlled operations. Revise the Best Available Control Technology (BACT) determination to include an economic analysis of the different size baghouses along with your BACT recommendation.

The visible emission standard for a baghouse is typically 5 percent opacity. Please provide technical support for a higher standard if the visible emissions from the proposed baghouse will exceed 5 percent opacity.

Please describe the design and operation of the water application system that will be used to minimize fugitive emissions. Provide a general process flow diagram of the system.

The Department will resume processing this application after receipt of the requested information. If you have any questions on this matter, please call Willard Hanks at 904/488-1344.

Sincerely,

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

AAL/wh

cc: Pat Wong, DERM
Brian Beals, EPA
John Bunyak, NPS
Joe Kahn, SED
David Buff, KBN

Fold at line over top of envelope to the right of the return address

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
- 2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mr. Scott Quaas, Enw. Mgr.
Parmac America, Inc.
455 Fairway Dr.
Deerfield Bch, Fl
33441

4a. Article Number

P 265 659 122

4b. Service Type

- Registered Certified
- Express Mail Insured
- Return Receipt for Merchandise COD

7. Date of Delivery

1/31/97

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)

X [Signature]

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1994

Domestic Return Receipt

Thank you for using Return Receipt Service.

P 265 659 122

US Postal Service
Receipt for Certified Mail

No Insurance Coverage Provided.
Do not use for International Mail (See reverse)

Sent to	Scott Quaas
Street & Number	Parmac America
Post Office, State, & ZIP Code	Deerfield Bch, Fl
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	12-30-96
	0350020-001-AC

PS Form 3800, April 1995

0250020-001-AC
PSD-FL-236



Letter of
Transmittal

RECEIVED

DEC 10 1996

BUREAU OF
AIR REGULATION

BUREAU OF
AIR REGULATION

1996

RECEIVED

Date: 12/09/96

Project No.: 9651137-0900

To: A. A. Linero, P.E.
Florida Dept. of Env. Prot.
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Tarmac America, Inc.
Deerfield Beach, Florida Facility

The following items are being sent to you: with this letter under separate cover

<u>Copies</u>	<u>Description</u>
<u>4</u>	<u>Electronic Submittal Disks</u>
<u>4</u>	<u>Permit Application(sent previously under separate cover)</u>

These are transmitted:

- As requested
- For review
- For review and comment
- For approval
- For your information
- For Submittal

Remarks: The application have been sent under separate cover.

Sender: Mark Aguilar/arz

Copy to: Scott Quaas, Tarmac (2)

9651137Y/F1/WP/3 12/09/96

6241 Northwest 23rd Street
Suite 500
Gainesville, Florida 32653-1500
352-336-5600 FAX 352-336-6603

5405 West Cypress Street
Suite 215
Tampa, Florida 33607
813-287-1717 FAX 813-287-1716

1801 Clint Moore Road
Suite 105
Boca Raton, Florida 33487
407-994-9910 FAX 407-994-9393

7785 Baymeadows Way
Suite 105
Jacksonville, Florida 32256
904-739-5600 FAX 904-739-7777

1616 'P' Street NW
Suite 350
Washington, DC 20036
202-462-1100 FAX 202-462-2270



Letter of Transmittal

Date: 12/05/96

Project No.: 9651137-0900

To: A. A. Linero, P.E.
Florida Dept. of Env. Prot.
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Tarmac America, Inc.
Deerfield Beach, Florida Facility

RECEIVED
DEC 6 1996
BUREAU OF AIR REGULATION

The following items are being sent to you: with this letter under separate cover

<u>Copies</u>	<u>Description</u>
<u>4</u>	<u>Air Construction Permit Application - Slag Dryer</u>
<u>4</u>	<u>Electronic Submittal Disk (under separate cover)</u>

These are transmitted:

- As requested
- For review
- For review and comment
- For approval
- For your information
- For Submittal

Remarks: The electronic submittal disks will follow under separate cover.

Sender: Mark Aguilar/arz

Copy to: Scott Quaas, Tarmac (2)

0250020-001-AC
p50-FI-236

9651137Y/F1/WP/2 12/05/96

021759

BN ENGINEERING AND APPLIED SCIENCES, INC.

PLEASE DETACH AND RETAIN FOR YOUR RECORDS

INVOICE NUMBER	DATE		VOUCHER NO.	AMOUNT
	12/5/96	Permit Application Fee		\$7500.00

FOR SECURITY PURPOSES THE BORDER OF THIS DOCUMENT CONTAINS MICROPRINTING

KBN Engineering and Applied Sciences, Inc.
GENERAL DISBURSEMENT ACCOUNT
 PH. 352-336-5600
 6241 N.W. 23RD ST., SUITE 500
 GAINESVILLE, FL 32653-1500

First Union National Bank
 of Florida
 Gainesville, Florida 32605 63-2/630
 Branch 311

021759

December 5 19 96

PAY *****7500***** DOLLARS AND 00 CENTS **7500.00

TO THE ORDER OF Florida Dept. of Environmental Protection

KBN ENGINEERING AND APPLIED SCIENCES, INC.

David A. Buff
 AUTHORIZED SIGNATURE

THE REVERSE SIDE OF THIS DOCUMENT INCLUDES AN ARTIFICIAL WATERMARK. HOLD AT AN ANGLE TO VIEW.



RECEIVED

DEC 6 1996

BUREAU OF
AIR REGULATION

**AIR CONSTRUCTION PERMIT
APPLICATION FOR A
REPLACEMENT SLAG DRYER
SYSTEM
TARMAC AMERICA, INC.**

Prepared For:

**Tarmac America, Inc.
455 Fairway Drive
Deerfield Beach, Florida 33441**

Prepared By:

**KBN Engineering and Applied Sciences, Inc.
6241 NW 23rd Street
Gainesville, Florida 32653-1500**

**December 1996
9651137Y/F1**

I

APPLICATION INFORMATION

Department of Environmental Protection

DIVISION OF AIR RESOURCES MANAGEMENT

APPLICATION FOR AIR PERMIT - LONG FORM

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

I. APPLICATION INFORMATION

This section of the Application for Air Permit form identifies the facility and provides general information on the scope and purpose of this application. This section also includes information on the owner or authorized representative of the facility (or the responsible official in the case of a Title V source) and the necessary statements for the applicant and professional engineer, where required, to sign and date for formal submittal of the Application for Air Permit to the Department. If the application form is submitted to the Department using ELSA, this section of the Application for Air Permit must also be submitted in hard-copy.

Identification of Facility Addressed in This Application

Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility site name, if any; and the facility's physical location. If known, also enter the facility identification number.

1. Facility Owner/Company Name: Tarmac America, Inc.	
2. Site Name: Tarmac Pennsuco	
3. Facility Identification Number: 0250020 [] Unknown	
4. Facility Location Information: Street Address or Other Locator: 11000 N.W. 121 Way City: Medley County: Dade Zip Code: 33178	
5. Relocatable Facility? [] Yes [x] No	6. Existing Permitted Facility? [x] Yes [] No

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	December 6, 1996
2. Permit Number:	0250020-001-AC
3. PSD Number (if applicable):	PSD-F1-236
4. Siting Number (if applicable):	

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official:

Scott Quaas, Environmental Manager

2. Owner/Authorized Representative or Responsible Official Mailing Address:

Organization/Firm: **Tarmac America, Inc.**

Street Address: **455 Fairway Drive**

City: **Deerfield Beach**

State: **FL**

Zip Code: **33441**

3. Owner/Authorized Representative or Responsible Official Telephone Numbers:

Telephone: **(954) 425-4165**

Fax: **(954) 480-9352**

4. Owner/Authorized Representative or Responsible Official Statement:

I, the undersigned, am the owner or authorized representative* of the non-Title V source addressed in this Application for Air Permit or the responsible official, as defined in Rule 62-210.200, F.A.C., 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

DEC 05 1996

Date

* Attach letter of authorization if not currently on file.

Scope of Application

This Application for Air Permit addresses the following emissions unit(s) at the facility. An Emissions Unit Information Section (a Section III of the form) must be included for each emissions unit listed.

Emissions Unit ID		Description of Emissions Unit	Permit Type
<i>Unit #</i>	<i>Unit ID</i>		
1R		Slag Dryer	AC1E
2R	009	Clinker Handling and Storage	AC1E
3R	013	Finish Mill #4	AC1E
4R	014	Cement Silos & Bulk Loadout	AC1E

See individual Emissions Unit (EU) sections for more detailed descriptions.
Multiple EU IDs indicated with an asterisk (*). Regulated EU indicated with an "R".

Purpose of Application and Category

Check one (except as otherwise indicated):

Category I: All Air Operation Permit Applications Subject to Processing Under Chapter 62-213, F.A.C.

This Application for Air Permit is submitted to obtain:

-] Initial air operation permit under Chapter 62-213, F.A.C., for an existing facility which is classified as a Title V source.
-] Initial air operation permit under Chapter 62-213, F.A.C., 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: _____

-] Air operation permit renewal under Chapter 62-213, F.A.C., for a Title V source.

Operation permit to be renewed: _____

-] Air operation permit revision for a Title V source to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: _____

Operation permit to be renewed: _____

-] Air operation permit revision or administrative correction for a Title V source to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. Also check Category III.

Operation permit to be revised/corrected: _____

-] Air operation permit revision for a Title V source 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 to be revised: _____

Reason for revision: _____

Category II: All Air Construction Permit Applications Subject to Processing Under Rule 62-210.300(2)(b), F.A.C.

This Application for Air Permit is submitted to obtain:

- Initial air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s): _____

- Renewal air operation permit under Rule 62-210.300(2)(b), F.A.C., for a synthetic non-Title V source.

Operation permit to be renewed: _____

- Air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g., to address one or more newly constructed or modified emissions units.

Operation permit to be revised: _____

Reason for revision: _____

Category III: All Air Construction Permit Applications for All Facilities and Emissions Units.

This Application for Air Permit is submitted to obtain:

- Air construction permit to construct or modify one or more emissions units within a facility (including any facility classified as a Title V source).

Current operation permit number(s), if any: _____
AO13-238048

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

Current operation permit number(s): _____

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

Application Processing Fee

Check one:

Attached - Amount: \$ \$ 7,500.00

Not Applicable.

Construction/Modification Information

1. Description of Proposed Project or Alterations: Project involves construction of new slag dryer system to replace existing slag dryer system. See Attachment A for further information
2. Projected or Actual Date of Commencement of Construction : 1 Jan 1997
3. Projected Date of Completion of Construction : 31 Dec 1997

Professional Engineer Certification

1. Professional Engineer Name: David A. Buff Registration Number: 19011
2. Professional Engineer Mailing Address: Organization/Firm: KBN Eng and Applied Sciences Street Address: 6241 NW 23rd Street, Suite 500 City: Gainesville State: FL Zip Code: 32653-1500
3. Professional Engineer Telephone Numbers: Telephone: (352) 336-5600 Fax: (352) 336-6603

4. Professional Engineer's Statement:

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

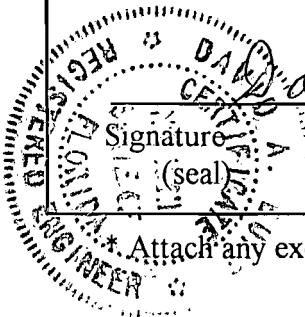
(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions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



David A. Buff

Signature

12/5/96

Date

* Attach any exception to certification statement.

Application Contact

1. Name and Title of Application Contact: Scott Quaas, Environmental Manager
2. Application Contact Mailing Address: Organization/Firm: Tarmac America, Inc. Street Address: 455 Fairway Drive City: Deerfield Beach State: FL Zip Code: 33441
3. Application Contact Telephone Numbers: Telephone: (954) 425-4165 Fax: (954) 480-9352

Application Comment

<p>The structure of this application compliments the Title V Operating Permit application submitted in June 1996. The grouping of emission points into emission units is consistent with the Title V application. Additional information is provided in Attachment A.</p>
--

II

GENERAL FACILITY INFORMATION

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: 17 East (km): 562.8 North (km): 2861.7			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): 25 / 52 / 30 Longitude: (DD/MM/SS): 80 / 22 / 30			
3. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 32	6. Facility SIC(s): 3241, 3271, 3273
7. Facility Comment (limit to 500 characters):			

Facility Contact

1. Name and Title of Facility Contact: Scott Quaas, Environmental Manager			
2. Facility Contact Mailing Address: Organization/Firm: Tarmac America, Inc. Street Address: 455 Fairway Drive City: Deerfield Beach State: FL Zip Code: 33441			
3. Facility Contact Telephone Numbers: Telephone: (954) 425-4165 Fax: (954) 480-9352			

Facility Regulatory Classifications

1. Small Business Stationary Source? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
2. Title V Source? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3. Synthetic Non-Title V Source? <input type="checkbox"/> Yes, <input checked="" type="checkbox"/> No
4. Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5. Synthetic Minor Source of Pollutants Other than HAPs? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6. Major Source of Hazardous Air Pollutants (HAPs)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7. Synthetic Minor Source of HAPs? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
8. One or More Emissions Units Subject to NSPS? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9. One or More Emissions Units Subject to NESHAP? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
10. Title V Source by EPA Designation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
11. Facility Regulatory Classifications Comment (limit to 200 characters):

B. FACILITY REGULATIONS

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-212.400 PSD Review

C. FACILITY POLLUTANTS

Facility Pollutant Information

1. Pollutant Emitted	2. Pollutant Classification
PM Particulate Matter - Total	A
NOX Nitrogen Oxides	A
SO2 Sulfur Dioxide	A
SAM Sulfuric Acid Mist	B
VOC Volatile Organic Compounds	A
CO Carbon Monoxide	A
PM10 Particulate Matter - PM10	A
H106 Hydrochloric acid	A

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Detail Information:

1. Pollutant Emitted:		
2. Requested Emissions Cap:	(lb/hr)	(tons/yr)
3. Basis for Emissions Cap Code:		
4. Facility Pollutant Comment (limit to 400 characters):		

Facility Pollutant Detail Information:

1. Pollutant Emitted:		
2. Requested Emissions Cap:	(lb/hr)	(tons/yr)
3. Basis for Emissions Cap Code:		
4. Facility Pollutant Comment (limit to 400 characters):		

E. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements for All Applications

1. Area Map Showing Facility Location: <input checked="" type="checkbox"/> Attached, Document ID: <u>Att. A, Fig 2-1</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Facility Plot Plan: <input checked="" type="checkbox"/> Attached, Document ID: <u>Att. A, Fig 2-2</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Process Flow Diagram(s): <input checked="" type="checkbox"/> Attached, Document ID(s): <u>Att. A, Fig 2-3</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: <input checked="" type="checkbox"/> Attached, Document ID: <u>Att. A</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
5. Fugitive Emissions Identification: <input checked="" type="checkbox"/> Attached, Document ID: <u>Att. A</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
6. Supplemental Information for Construction Permit Application: <input checked="" type="checkbox"/> Attached, Document ID: <u>Att. A</u> <input type="checkbox"/> Not Applicable

Additional Supplemental Requirements for Category I Applications Only

7. List of Proposed Exempt Activities: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. List of Equipment/Activities Regulated under Title VI: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Equipment/Activities On site but Not Required to be Individually Listed <input checked="" type="checkbox"/> Not Applicable
9. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

<p>11. Identification of Additional Applicable Requirements:</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input checked="" type="checkbox"/> Not Applicable</p>
<p>12. Compliance Assurance Monitoring Plan:</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input checked="" type="checkbox"/> Not Applicable</p>
<p>13. Risk Management Plan Verification:</p> <p><input type="checkbox"/> Plan Submitted to Implementing Agency - Verification Attached Document ID: _____</p> <p><input type="checkbox"/> Plan to be Submitted to Implementing Agency by Required Date</p> <p><input checked="" type="checkbox"/> Not Applicable</p>
<p>14. Compliance Report and Plan</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input checked="" type="checkbox"/> Not Applicable</p>
<p>15. Compliance Statement (Hard-copy Required)</p> <p><input type="checkbox"/> Attached, Document ID: _____</p> <p><input checked="" type="checkbox"/> Not Applicable</p>

III

EMISSION UNIT INFORMATION

EMISSION UNIT 1

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

**A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)****Type of Emissions Unit Addressed in This Section**

1. Regulated or Unregulated Emissions Unit? Check one:

] 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.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

] 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.

**B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)**

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Slag Dryer / Conveying Sys., Storage Pile & #2 Fuel Oil Tank		
2. Emissions Unit Identification Number: <input checked="" type="checkbox"/> No Corresponding ID <input type="checkbox"/> Unknown		
3. Emissions Unit Status Code: c	4. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Emissions Unit Major Group SIC Code: 32
6. Emissions Unit Comment (limit to 500 characters): Fuel oil tank will be 10,000 gallons capacity, and not subject to NSPS.		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters):

Fabric Filter

2. Control Device or Method Code: **16**

B.

1. Description (limit to 200 characters):

Fabric Filter

2. Control Device or Method Code: **18**

C.

1. Description (limit to 200 characters):

2. Control Device or Method Code:

**C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)**

Emissions Unit Details

1. Initial Startup Date:		
2. Long-term Reserve Shutdown Date:		
3. Package Unit: Manufacturer:	Model Number:	
4. Generator Nameplate Rating:	MW	
5. Incinerator Information:		
	Dwell Temperature:	°F
	Dwell Time:	seconds
	Incinerator Afterburner Temperature:	°F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:	72	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:	150	tons/hr
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/yr	3,120 hours/yr

**D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)**

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-296.320(4)(a) Process Weight Table
62-296.320(4)(b) Visible Emissions

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: EU08	
2. Emission Point Type Code: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): Slag Dryer; Slag handling and storage operations	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code: <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W	
6. Stack Height:	30 feet
7. Exit Diameter:	4 feet
8. Exit Temperature:	300 °F

9. Actual Volumetric Flow Rate:	54,600 acfm
10. Percent Water Vapor:	10 %
11. Maximum Dry Standard Flow Rate:	34,100 dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates:	
Zone:	East (km): North (km):
14. Emission Point Comment (limit to 200 characters):	
	Stack data representative of slag dryer. See Attachment A for information on conveyor transfer point baghouse.

**F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)**

Segment Description and Rate: Segment 1 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Material Products; Cement Manufacturing Wet Process; Raw material grinding and drying	
2. Source Classification Code (SCC): <p style="text-align: center;">30500613</p>	
3. SCC Units: <p style="text-align: center;">tons cement produced</p>	
4. Maximum Hourly Rate: <p style="text-align: center;">150</p>	5. Maximum Annual Rate: <p style="text-align: center;">300,000</p>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): <p style="text-align: center;">Raw material is blast furnace slag. Maximum rates reflect slag throughput.</p>	

Segment Description and Rate: Segment 2 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Mineral Products; Fuel-Fired Equipment; Process Heaters; Distillate Oil	
2. Source Classification Code (SCC): 30590001	
3. SCC Units: 1000 gallons burned	
4. Maximum Hourly Rate: 0.514	5. Maximum Annual Rate: 1,605
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 0.2	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 140	
10. Segment Comment (limit to 200 characters): No. 2 fuel oil burning in slag dryer.	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 3 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Material Products: Fuel-Fired Equipment; Process Heaters Natural Gas	
2. Source Classification Code (SCC): <p style="text-align: center;">3-05-900-03</p>	
3. SCC Units: <p style="text-align: center;">Million Cubic Feet</p>	
4. Maximum Hourly Rate: <p style="text-align: center;">0.072</p>	5. Maximum Annual Rate: <p style="text-align: center;">225</p>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: <p style="text-align: center;">1,000</p>	
10. Segment Comment (limit to 200 characters): <p style="text-align: center;">Maximum Annual Rate = 224.6 (rounded to 225). Natural gas burning in slag dryer.</p>	

Segment Description and Rate: Segment 4 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Petroleum Product Storage - Fixed Roof Tanks. Distillate Fuel #2 - Working Loss	
2. Source Classification Code (SCC): 4-03-010-21	
3. SCC Units: 1000 gallons throughput	
4. Maximum Hourly Rate: 0.514	5. Maximum Annual Rate: 1,605
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

**F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)**

Segment Description and Rate: Segment 5 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Petroleum Product Storage - Fixed Roof Tanks. Distillate Fuel #2 - Breathing Loss	
2. Source Classification Code (SCC): <p style="text-align: center;">4-03-010-19</p>	
3. SCC Units: <p style="text-align: center;">1,000 gallons</p>	
4. Maximum Hourly Rate:	5. Maximum Annual Rate: <p style="text-align: center;">10</p>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

Segment Description and Rate: Segment of

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

**G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	016		EL
PM10	016		EL
SO2			NS
NOx			NS
CO			NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: PM		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	12 lb/hour	20.4 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to <u>1.775</u> tons/yr		
6. Emission Factor:		
Reference: See Attachment A		
7. Emissions Method Code:		
<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters):		
Slag Dryer: $0.04 \text{ gr/dscf} \times 34,100 \text{ dscfm} \times 60 \text{ min/hr} \div 7000 \text{ gr/lb} = 11.7 \text{ lb/hr}$; $11.7 \text{ lb/hr} \times 3120 \text{ hr/yr} \div 2000 \text{ lb} = 18.2 \text{ TPY}$. Dry Slag Conveying System Baghouse = 0.26 lb/hr & 0.40 TPY. Fugitive emissions: estimated in Table 3-2, see Attachment A.		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		
Slag dryer is limited to 3,120 hours per year. Potential lb/hr emissions above do not include fugitives.		

Emissions Unit Information Section 1 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.04 gr/dscf		
4. Equivalent Allowable Emissions:	11.7 lb/hour	18.24 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 9 and Method 5		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Proposed BACT limit for slag dryer.		

B.

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.01 gr/dscf		
4. Equivalent Allowable Emissions:	0.26 lb/hour	0.4 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 9		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Based on baghouse design for conveyor transfer system baghouse.		

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Pollutant Detail Information:

1. Pollutant Emitted: PM10		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	12 lb/hour	19.3 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to <u>0.625</u> tons/yr		
6. Emission Factor: Reference: See Attachment A		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Slag Dryer: 0.04 gr/dscf x 34,100 dscfm x 60 min/hr ÷ 7000 gr/lb = 11.7 lb/hr; 11.7 lb/hr x 3120 hr/yr ton/2000 lb = 18.2 TPY. Dry Slag Conveying System Baghouse = 0.26 lb.hr & 0.40 TPY. Fugitive emissions are estimated in Table 3-2, Attachment A.		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Slag dryer is limited to 3,120 hours per year. Potential lb/hr emissions above do not include fugitives.		

Emissions Unit Information Section 1 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.04 gr/dscf		
4. Equivalent Allowable Emissions:	11.7 lb/hour	18.24 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 9 and Method 5		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Proposed BACT limit for slag dryer.		

B.

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.01 gr/dscf		
4. Equivalent Allowable Emissions:	0.26 lb/hour	0.4 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 9		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Based on baghouse design for conveyor transfer system baghouse.		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**Pollutant Detail Information:**

1. Pollutant Emitted: SO2		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	14.6 lb/hour	22.8 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
[] 1 [] 2 [] 3 _____ to _____ tons/yr		
6. Emission Factor:		142 (S) lb/1000 gal
Reference: AP-42		
7. Emissions Method Code:		
[] 0 [] 1 [] 2 <input checked="" type="checkbox"/> 3 [] 4 [] 5		
8. Calculation of Emissions (limit to 600 characters):		
514.3 gal/hr x 142(0.2) lb/1000 gal = 14.6 lb/hr; 14.6 lb/hr x 3,120 hr/yr x ton/2000 lb = 22.8 TPY		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		
Slag dryer is limited to 3,120 hours per year.		

Emissions Unit Information Section 1 of 4
Allowable Emissions (Pollutant identified on front page)

Slag Dryer
Sulfur Dioxide

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Pollutant Detail Information:

1. Pollutant Emitted: NOx		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	10.3 lb/hour	16.1 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr		
6. Emission Factor:		20 lb/1000 gal
Reference: AP-42		
7. Emissions Method Code:		
<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters):		
<p style="text-align: center;">514.3 gal/hr x 20 lb/1000 gal = 10.3 lb/hr; 10.3 lb/hr x 3,120 hr/yr x ton/2000 lb = 16.1 TPY</p>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		
<p>Slag dryer is limited to 3,120 hours per year.</p>		

Emissions Unit Information Section 1 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**Pollutant Detail Information:**

1. Pollutant Emitted: CO	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions:	2.6 lb/hour 4 tons/year
4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive/Other Emissions: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr	
6. Emission Factor: 5 lb/1000 gal Reference: AP-42	
7. Emissions Method Code: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): 514.3 gal/hr x 5 lb/1000 gal = 2.6 lb/hr; 2.6 lb/hr x 3,120 hr/yr x ton/2000 lb = 4.0 TPY	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Slag dryer is limited to 3,120 hours per year.	

Emissions Unit Information Section 1 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)**

Visible Emissions Limitations: Visible Emissions Limitation 1 of 3

1.	Visible Emissions Subtype: VE20
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: 20 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters): Rule 62-296.320(4)(b) - Applicable to Slag Dryer.

Visible Emissions Limitations: Visible Emissions Limitation 2 of 3

1.	Visible Emissions Subtype: VE5
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: 5 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters): Rule 62-297.620(4) - Applicable to Conveyor Transfer System Baghouse.

**I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)**

Visible Emissions Limitations: Visible Emissions Limitation 3 of 3

1.	Visible Emissions Subtype: VE10
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: 10 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters): 40 CFR 60, Subpart F, Section 60.62(c) - Applicable to Conveyor Transfer System Baghouse.

Visible Emissions Limitations: Visible Emissions Limitation ____ of ____

1.	Visible Emissions Subtype:
2.	Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> 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):

**J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)**

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [] Rule [] Other	
4. Monitor Information: Monitor Manufacturer: Model Number:	Serial Number:
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [] Rule [] Other	
4. Monitor Information: Monitor Manufacturer: Model Number:	Serial Number:
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT
TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)**

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.
- The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.
- None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
	SO ₂	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
	NO ₂	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4.	Baseline Emissions:			
	PM	0 lb/hour		0 tons/year
	SO ₂	0 lb/hour		0 tons/year
	NO ₂			0 tons/year
5.	PSD Comment (limit to 200 characters):			

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)**

Supplemental Requirements for All Applications

1.	Process Flow Diagram	<input checked="" type="checkbox"/> Attached, Document ID: <u>Att. A, Fig 2-3</u>	<input type="checkbox"/> Waiver Requested
		<input type="checkbox"/> Not Applicable	
2.	Fuel Analysis or Specification	<input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment A</u>	<input type="checkbox"/> Waiver Requested
		<input type="checkbox"/> Not Applicable	
3.	Detailed Description of Control Equipment	<input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment A</u>	<input type="checkbox"/> Waiver Requested
		<input type="checkbox"/> Not Applicable	
4.	Description of Stack Sampling Facilities	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
		<input checked="" type="checkbox"/> Not Applicable	
5.	Compliance Test Report	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
		<input type="checkbox"/> Previously Submitted, Date: _____	
6.	Procedures for Startup and Shutdown	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
7.	Operation and Maintenance Plan	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
8.	Supplemental Information for Construction Permit Application	<input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment A</u>	<input type="checkbox"/> Not Applicable
9.	Other Information Required by Rule or Statute	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Acid Rain Permit Application (Hard Copy Required) <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

EMISSION UNIT 2

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

**A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)****Type of Emissions Unit Addressed in This Section**

1. 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.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

- [] 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).
- [X] 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.

**B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)**

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Clinker Handling and Storage Silos - 21,22,23,26,27, and 28		
2. Emissions Unit Identification Number: <input type="checkbox"/> No Corresponding ID <input type="checkbox"/> Unknown 009		
3. Emissions Unit Status Code: A	4. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Emissions Unit Major Group SIC Code: 32
6. Emissions Unit Comment (limit to 500 characters): Only Clinker Handling System #3 and Clinker Silos 21,22,23,26,27, and 28 will be affected by the proposed slag dryer.		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters): Baghouses (3)
2. Control Device or Method Code: 18

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)**

Emissions Unit Details

1. Initial Startup Date:		
2. Long-term Reserve Shutdown Date:		
3. Package Unit: Manufacturer:	Model Number:	
4. Generator Nameplate Rating:	MW	
5. Incinerator Information:		
	Dwell Temperature:	°F
	Dwell Time:	seconds
	Incinerator Afterburner Temperature:	°F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:	238	TPH
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):		
<p>Maximum Process/Throughput Rate: 237.5 TPH (rounded to 238 TPH). Based on 87.5 TPH from Kiln #3, and 150 TPH from slag dryer. See Attachment TA-E02-C5.</p>		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/yr	8,760 hours/yr

**D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)**

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

A large, empty rectangular box with a black border, intended for the user to provide a Rule Applicability Analysis. The box is currently blank.

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

- 40CFR60.11(b) General NSPS Requirements
- 40CFR60.11(c) General NSPS Requirements
- 40CFR60.11(d) General NSPS Requirements
- 40CFR60.12 General NSPS Requirements
- 40CFR60.19 General NSPS Requirements
- 40CFR60.62(c) Portland Cement Plant NSPS Requirement for non-kiln, non-cooler sources
- 40CFR60.7 General NSPS Requirements
- 40CFR60.8 General NSPS Requirements
- 62-296.320(4)(b) Visible Emissions

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: EU09	
2. Emission Point Type Code: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): Baghouses K-347, K-447 and K-633	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code: <input type="checkbox"/> D <input type="checkbox"/> F <input checked="" type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input type="checkbox"/> V <input type="checkbox"/> W	
6. Stack Height:	160 feet
7. Exit Diameter:	1 feet
8. Exit Temperature:	77 °F

9. Actual Volumetric Flow Rate:	5,000 acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates:	
Zone:	East (km): North (km):
14. Emission Point Comment (limit to 200 characters):	
<p>Data presented above reflects K-347 and K-447 baghouses. Refer to Attachment TA-E02-E3 for additional data.</p>	

**F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)**

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Mineral Products; Cement Manufacturing: Wet Process; Clinker Transfer	
2. Source Classification Code (SCC): <p style="text-align: center;">3-05-007-16</p>	
3. SCC Units: <p style="text-align: center;">Tons Cement Produced</p>	
4. Maximum Hourly Rate: <p style="text-align: center;">237.5</p>	5. Maximum Annual Rate: <p style="text-align: center;">1,066,500</p>
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): <p style="text-align: center;">Note: Maximum rates reflect transfer of clinker, and slag and associated operating hours. See Attachment TA-E02-C5.</p>	

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Clinker Storage Silos	
2. Source Classification Code (SCC): 3-05-007-99	
3. SCC Units: tons cement produced	
4. Maximum Hourly Rate: 150	5. Maximum Annual Rate: 300,000
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): Rate represents tons of slag produced.	

**G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	018		NS
PM10	018		NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: PM		
2. Total Percent Efficiency of Control:	%	
3. Potential Emissions:	0.99 lb/hour	4.32 tons/year
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr		
6. Emission Factor: 0.01 gr/acf		
Reference: Manufacturer Design		
7. Emissions Method Code:		
<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters):		
<p style="text-align: center;">Represents emissions from two identical baghouses: K-347 and K-447. See Table 3-4, Attachment A.</p>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		

Emissions Unit Information Section 2 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: PM10	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions:	0.99 lb/hour 4.32 tons/year
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive/Other Emissions: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr	
6. Emission Factor: 0.01 gr/acf Reference: Manufacturer Design	
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): Represents emissions from two identical baghouses: K-347 and K-447. See Table 3-4, Attachment A	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	

Emissions Unit Information Section 2 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 2

1.	Visible Emissions Subtype: VE10
2.	Basis for Allowable Opacity: <input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: 10 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: Annual VE Test with EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters): VE limit of 10% for Baghouses K-347 and K-447, based on 11/15/95 BACT determination.

Visible Emissions Limitations: Visible Emissions Limitation 2 of 2

1.	Visible Emissions Subtype: VE5
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: 5 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: Annual VE test with EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters): Applies to Baghouse K-633, based on 11/15/95 BACT determination.

**J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)**

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [] Rule [] Other	
4. Monitor Information: Monitor Manufacturer: Model Number:	Serial Number:
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [] Rule [] Other	
4. Monitor Information: Monitor Manufacturer: Model Number:	Serial Number:
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT
TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)**

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- [x] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- [] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.
- [] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.
- [] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- [] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.
- The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.
- None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:	PM	[<input checked="" type="checkbox"/>] C	[<input type="checkbox"/>] E	[<input type="checkbox"/>] Unknown
		SO ₂	[<input type="checkbox"/>] C	[<input type="checkbox"/>] E	[<input type="checkbox"/>] Unknown
		NO ₂	[<input type="checkbox"/>] C	[<input type="checkbox"/>] E	[<input type="checkbox"/>] Unknown
4.	Baseline Emissions:	PM	0 lb/hour	0	tons/year
		SO ₂	lb/hour		tons/year
		NO ₂			tons/year
5.	PSD Comment (limit to 200 characters):				
	Emissions unit does not emit SO ₂ or NO _x .				

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)**

Supplemental Requirements for All Applications

1.	Process Flow Diagram	<input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment A</u>	<input type="checkbox"/> Waiver Requested
		<input type="checkbox"/> Not Applicable	
2.	Fuel Analysis or Specification	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
		<input checked="" type="checkbox"/> Not Applicable	
3.	Detailed Description of Control Equipment	<input checked="" type="checkbox"/> Attached, Document ID: <u>TA-E02-L3</u>	<input type="checkbox"/> Waiver Requested
		<input type="checkbox"/> Not Applicable	
4.	Description of Stack Sampling Facilities	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
		<input checked="" type="checkbox"/> Not Applicable	
5.	Compliance Test Report	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
		<input type="checkbox"/> Previously Submitted, Date: _____	
6.	Procedures for Startup and Shutdown	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
7.	Operation and Maintenance Plan	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
8.	Supplemental Information for Construction Permit Application	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
9.	Other Information Required by Rule or Statute	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Acid Rain Permit Application (Hard Copy Required) <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

9651137Y/F1/TA-E02
12/05/96

Table TA-E02-C5. Maximum Process Rates for Clinker Handling/Storage Emission Unit 02, Tarmac America, Pennsuco

Source Description	Maximum Opacity	Throughput Maximum		Comment
	Hours	(TPH)	(TPY)	
Clinker Handling System - Kiln #3/Cooler #3	8760	87.5	766,500	Limited by Kiln #3
Slag Dryer Transfer	3120	150	300,000	Limited by Slag Dryer
Total		237.5	1,066,500	
Clinker Silos 21-23,26-28	8,760	NA	NA	

9651137Y/F1/TA-E02
12/05/96

Table TA-E02-E3. Emission Point Detail Information for Clinker Handling and Storage, Emission Unit 02, Tarmac America, Pennsuco

Source	Service	Baghouse ID	Stack Ht (ft)	Estimated Stack Diam (ft)	Exit Temp. (F)	Flowrate (acfm)
Clinker Handling System #3	K3	K-347	160	1	77	5,000
Clinker Handling System #3	K3	K-447	160	1	77	5,000
Clinker Silos 21-23, 26-28	NA	K-633	130	1	77	1,500

9651137Y/F1/TA-E02
12/05/96

Table TA-E02-L3. Control Equipment Information for Clinker Handling / Storage, Emission Unit 02. Tarmac America, Pennsuco

Source ID	Baghouse ID	Manufacturer	Model No.	Number of Bags	Flow Rate (acfm)	Cloth Area (ft ²)	Air to Cloth Ratio
Clinker Handling Line 3	K-347	Norblo	11-BE-88	88	5,000	1,100	4.5
Clinker Handling Line 3	K-447	Norblo	11-BE-88	88	5,000	1,100	4.5
Clinker Silo 21-23, 26-28	K-633	Norblo	HE-66	66	1,500	1,040	1.4

EMISSION UNIT 3

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

**A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)****Type of Emissions Unit Addressed in This Section**

1. Regulated or Unregulated Emissions Unit? Check one:

] 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.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

] 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.

**B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)**

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Finish Mill #4		
2. Emissions Unit Identification Number: <input type="checkbox"/> No Corresponding ID <input type="checkbox"/> Unknown 013		
3. Emissions Unit Status Code: A	4. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Emissions Unit Major Group SIC Code: 32
6. Emissions Unit Comment (limit to 500 characters): Only Finish Mill #4 will be affected by the proposed slag dryer. Orginal Arms ID is 013		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters): Baghouses (5)
2. Control Device or Method Code: 17

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)**

Emissions Unit Details

1. Initial Startup Date:		
2. Long-term Reserve Shutdown Date:		
3. Package Unit: Manufacturer:	Model Number:	
4. Generator Nameplate Rating:	MW	
5. Incinerator Information:		
	Dwell Temperature:	°F
	Dwell Time:	seconds
	Incinerator Afterburner Temperature:	°F

Emissions Unit Operating Capacity

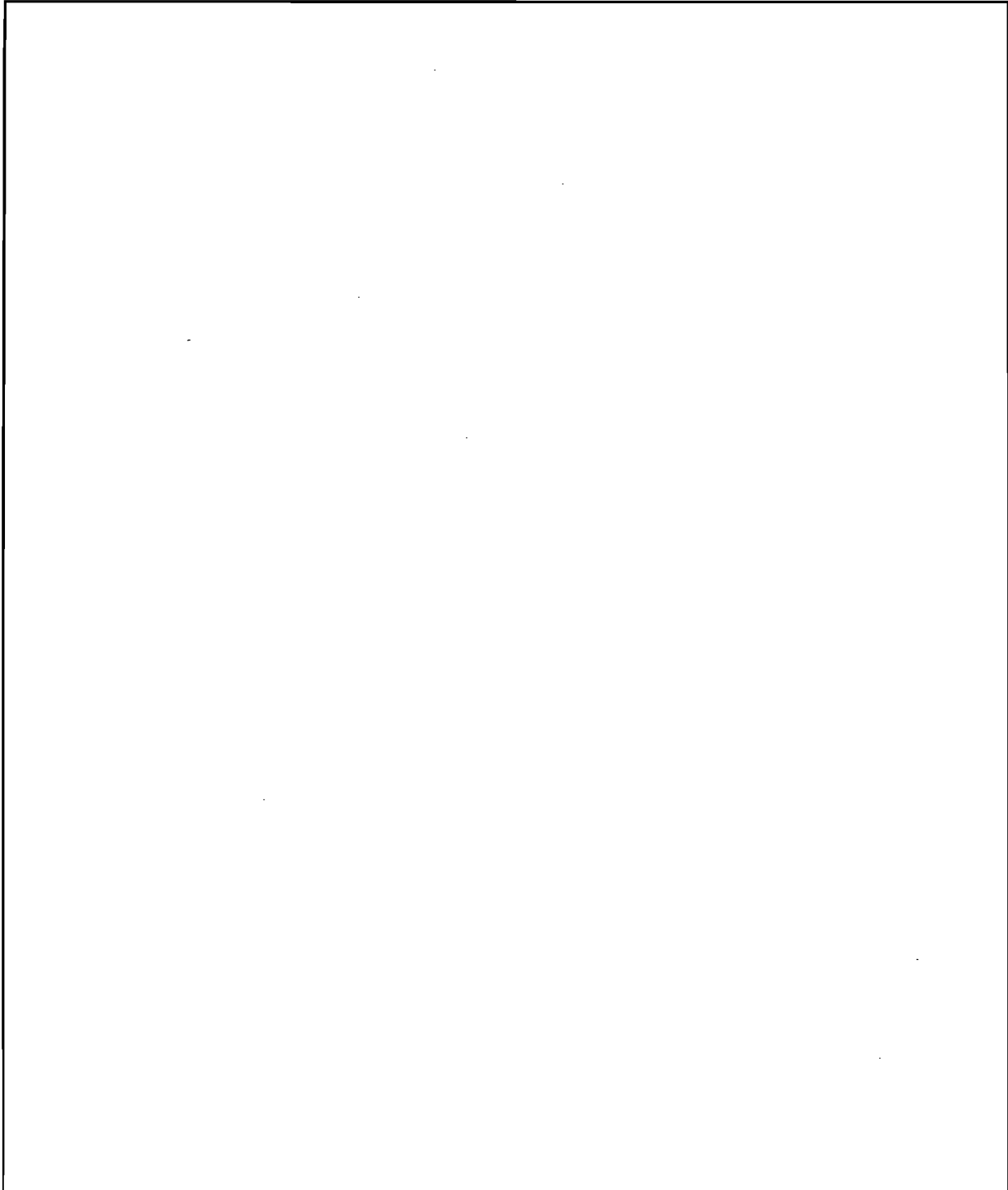
1. Maximum Heat Input Rate:		mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:	150	TPH
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/yr	8,760 hours/yr

**D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)**

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)



List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

40CFR60.11(b) General NSPS Requirements
40CFR60.11(c) General NSPS Requirements
40CFR60.11(d) General NSPS Requirements
40CFR60.12 General NSPS Requirements
40CFR60.19 General NSPS Requirements
40CFR60.62(c) NSPS Subpart F
40CFR60.7 General NSPS Requirements
40CFR60.8 General NSPS Requirements
62-296.320(4)(a) Process Weight Standard

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram:	
EU07	
2. Emission Point Type Code:	
[] 1 [] 2 [x] 3 [] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):	
5 baghouses. Refer to Attachment TA-E03-E3.	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code:	
[] D [] F [] H [] P [] R [] V [x] W	
6. Stack Height:	72 feet
7. Exit Diameter:	1 feet
8. Exit Temperature:	150 °F

9. Actual Volumetric Flow Rate:	30,000 acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates:	
Zone:	East (km): North (km):
14. Emission Point Comment (limit to 200 characters):	
<p>Data represent baghouse F-430. Refer to Attachment TA-E03-E3 for point specific data. Exit temperature may range from 100-200°F.</p>	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Mineral Products; Cement Manufacturing; Wet Process; Clinker Grinding	
2. Source Classification Code (SCC): 3-05-007-17	
3. SCC Units: Tons Cement Produced	
4. Maximum Hourly Rate: 150	5. Maximum Annual Rate: 1,314,000
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): Rates reflect Finish Mill #4 only.	

Segment Description and Rate: Segment of

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

**G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	018		EL
PM10	018		NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: PM	
2. Total Percent Efficiency of Control:	%
3. Potential Emissions:	5.75 lb/hour 25.14 tons/year
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive/Other Emissions: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr	
6. Emission Factor: 0.01 gr/acf Reference: Manufacturer Design	
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters): Refer to Attachment A, Table 3-4.	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):	

Emissions Unit Information Section 3 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: RULE		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: See Comment		
4. Equivalent Allowable Emissions:	5.75 lb/hour	25.14 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 9		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Process Weight Table, Rule 62-296.320(4)(a). Limit applies to Finish Mill No.4 only per PSD-FL-28. Emissions limited to lesser of process weight table or 5.75 lb/hr.		

B.

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.01 gr/acf		
4. Equivalent Allowable Emissions:	5.75 lb/hour	25.14 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 9		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Limit applies to Finish Mill No. 4 only per PSD-FL-28. Emissions limited to lesser of process weight table or 5.75 lb/hr.		

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Pollutant Detail Information:

1. Pollutant Emitted: PM10		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	5.75 lb/hour	25.14 tons/year
4. Synthetically Limited?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive/Other Emissions:	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr	
6. Emission Factor:	0.01 gr/acf	
	Reference: Manufacturer Design	
7. Emissions Method Code:	<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	
8. Calculation of Emissions (limit to 600 characters):	<p>Refer to Attachment A, Table 3-4.</p>	
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		

Emissions Unit Information Section 3 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: RULE		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: See Comment		
4. Equivalent Allowable Emissions:	5.75 lb/hour	25.14 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 9		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Process Weight Table, Rule 62-296.320(4)(a). Limit applies to Finish Mill No. 4 only per PSD-FL-28. Emissions limited to lesser of process weight table or 5.75 lb/hr.		

B.

1. Basis for Allowable Emissions Code: OTHER		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: 0.01 gr/acf		
4. Equivalent Allowable Emissions:	5.75 lb/hour	25.14 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 9		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Limit applies to Finish Mill No. 4 only per PSD-FL-28. Emissions limited to lesser of process weight table or 5.75 lb/hr.		

**I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)**

Visible Emissions Limitations: Visible Emissions Limitation 1 of 1

1.	Visible Emissions Subtype: VE05
2.	Basis for Allowable Opacity: <input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: 5 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: Annual VE Test EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters): BACT determination dated 11/15/79 applies to all Finish Mill No. 4 baghouses. BACT limit is more limiting than NSPS standard (40 CFR 60.62(c)) of 10%.

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

1.	Visible Emissions Subtype:
2.	Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> 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):

**J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)**

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [] Rule [] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [] Rule [] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT
TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)**

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

-] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
-] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.
-] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.
-] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
-] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.
- The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.
- None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
	SO ₂	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
	NO ₂	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO ₂	lb/hour		tons/year
	NO ₂			tons/year
5.	PSD Comment (limit to 200 characters):			
	Emission unit does not emit NOX or SO2. Baseline emissions unknown.			

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)**

Supplemental Requirements for All Applications

1.	Process Flow Diagram	<input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment A</u>	<input type="checkbox"/> Waiver Requested
		<input type="checkbox"/> Not Applicable	
2.	Fuel Analysis or Specification	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
		<input checked="" type="checkbox"/> Not Applicable	
3.	Detailed Description of Control Equipment	<input checked="" type="checkbox"/> Attached, Document ID: <u>TA-E03-L3</u>	<input type="checkbox"/> Waiver Requested
		<input type="checkbox"/> Not Applicable	
4.	Description of Stack Sampling Facilities	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
		<input checked="" type="checkbox"/> Not Applicable	
5.	Compliance Test Report	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
		<input type="checkbox"/> Previously Submitted, Date: _____	
6.	Procedures for Startup and Shutdown	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
7.	Operation and Maintenance Plan	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
8.	Supplemental Information for Construction Permit Application	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
9.	Other Information Required by Rule or Statute	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Acid Rain Permit Application (Hard Copy Required) <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Table TA-E03-E3. Emission Point Detail Information for Finish Mills, Emission Unit 03, Tarmac America, Pennsuco

Finish Mill	Baghouse ID	Stack Ht (ft)	Estimated Stack Diam (ft)	Exit Temp. (F)	Flowrate (acfm)
#4	F-430	72	1	150	30,000
#4	F-432	72	1	150	17,000
#4	F-603	72	1	77	8,000
#4	F-604	72	1	77	8,000
#4	F-605	72	1	77	4,000

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12/05/96

Table TA-E03-L3. Control Equipment Information for Finish Mills, Emission Unit 03, Tarmac America, Pennsuco

Finish Mill	Baghouse ID	Manufacturer	Model No.	Number of Bags	Flow Rate (acfm)	Cloth Area (ft ²)	Air to Cloth Ratio
#4	F-430	Fuller	6 zone #96	576	30,000	6,028	5.0
#4	F-432	Fuller	5 zone #48	240	17,000	2,510	6.8
#4	F-603	Mikropul	121S-10-20	121	8,000	1,424	5.6
#4	F-604	Mikropul	121S-10-20	121	8,000	1424	5.6
#4	F-605	Mikropul	645-10-30	64	4,000	753	5.3

EMISSION UNIT 4

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

**A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)****Type of Emissions Unit Addressed in This Section**

1. Regulated or Unregulated Emissions Unit? Check one:

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.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

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.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Cement Storage Silos 7,8, & 9 and Bulk Loadout Units 1 & 2		
2. Emissions Unit Identification Number: [] No Corresponding ID [] Unknown 014,015		
3. Emissions Unit Status Code: A	4. Acid Rain Unit? [] Yes [x] No	5. Emissions Unit Major Group SIC Code: 32
6. Emissions Unit Comment (limit to 500 characters): Original ARMS ID Nos. 014 and 015, for the Cement Silos, and Bulk Loadout units Nos. 1, 2, 3, respectively. Only Cement Silos 7-9, and Bulk Loadout Units 1 and 2 are affected by the proposed project.		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters): Baghouses (3)
2. Control Device or Method Code: 18

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)**

Emissions Unit Details

1. Initial Startup Date:		
2. Long-term Reserve Shutdown Date:		
3. Package Unit: Manufacturer:	Model Number:	
4. Generator Nameplate Rating:	MW	
5. Incinerator Information:		
	Dwell Temperature:	°F
	Dwell Time:	seconds
	Incinerator Afterburner Temperature:	°F

Emissions Unit Operating Capacity

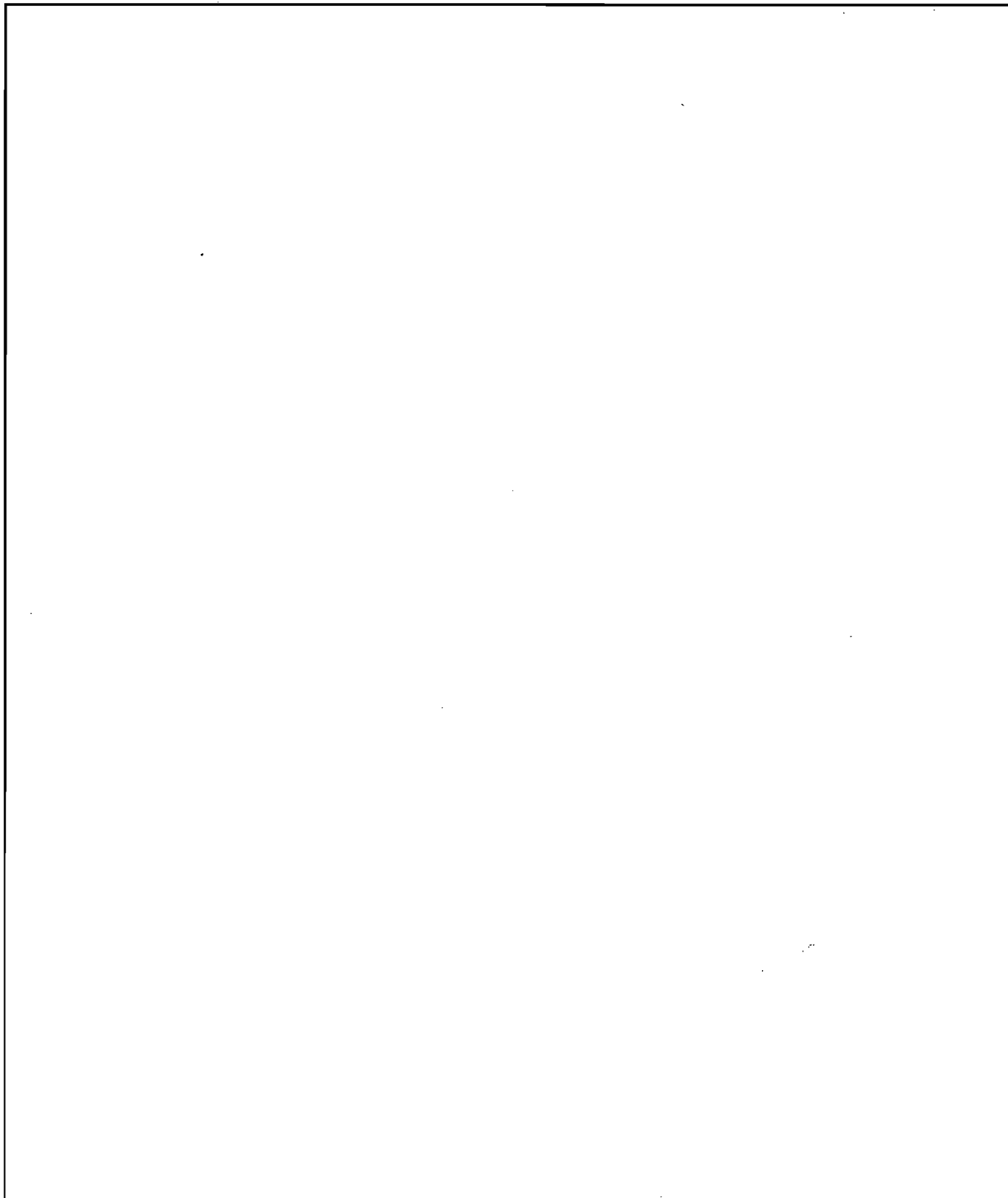
1. Maximum Heat Input Rate:		mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:	300	TPH
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters):		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/yr	8,760 hours/yr

**D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)**

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)



List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

40CFR60.11(b) General NSPS Requirements
40CFR60.11(c) General NSPS Requirements
40CFR60.11(d) General NSPS Requirements
40CFR60.12 General NSPS Requirements
40CFR60.19 General NSPS Requirements
40CFR60.62(c) Portland Cement Plant NSPS Requirement for non-kiln, non-cooler sources
40CFR60.7 General NSPS Requirements
40CFR60.8 General NSPS Requirements
62-296.320(4)(b) Visible Emissions

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: EU12	
2. Emission Point Type Code: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): Refer to Attachment TA-E04-E3	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code: <input type="checkbox"/> D <input type="checkbox"/> F <input checked="" type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input type="checkbox"/> V <input type="checkbox"/> W	
6. Stack Height:	200 feet
7. Exit Diameter:	1.1 feet
8. Exit Temperature:	77 °F

9. Actual Volumetric Flow Rate:	10,000 acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates:	
Zone:	East (km): North (km):
14. Emission Point Comment (limit to 200 characters):	
Data refer to baghouse F-512. Refer to Attachment TA-E04-E3 for point-specific data.	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Mineral Products; Cement Manufacturing Wet Process; Cement storage silos	
2. Source Classification Code (SCC): 3-05-007-18	
3. SCC Units: tons cement produced	
4. Maximum Hourly Rate: 500	5. Maximum Annual Rate: 4,380,000
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): Rate refers to combined rate to all cement silos as stated in permit AC13-21098.	

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): Mineral Products; Cement Manufacturing Wet Process; Cement Loadout	
2. Source Classification Code (SCC): 3-05-007-19	
3. SCC Units: Tons cement produced	
4. Maximum Hourly Rate: 300	5. Maximum Annual Rate: 3,008,760
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): Maximum rates refer to Cement Bulk Loadout Units 1 and 2.	

**G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	018		NS
PM10	018		NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: PM		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	1.4 lb/hour	6.01 tons/year
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions:		
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr		
6. Emission Factor:		0.01 gr/acf
Reference: Manufacturer Design		
7. Emissions Method Code:		
<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters):		
Emissions from Baghouses F-512, B-110 and B-210; see Table 3-4, Attachment A.		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		

Emissions Unit Information Section 4 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

Pollutant Detail Information:

1. Pollutant Emitted: PM10		
2. Total Percent Efficiency of Control:		99.9 %
3. Potential Emissions:	0.86 lb/hour	3.75 tons/year
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 _____ to _____ tons/yr		
6. Emission Factor:		0.01 gr/acf
Reference: Manufacturer Design		
7. Emissions Method Code: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters): Emissions from Baghouses F-512, B-110 and B-210; see Table 3-4, Attachment A.		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		

Emissions Unit Information Section 4 of 4
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)**

Visible Emissions Limitations: Visible Emissions Limitation 1 of 2

1.	Visible Emissions Subtype: VE20
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: 20 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: Annual VE test, EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters): Rule 62-296.320(4)(b) General Visible Emission Standard, only for Cement Silos 7-9.

Visible Emissions Limitations: Visible Emissions Limitation 2 of 2

1.	Visible Emissions Subtype: VE10
2.	Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3.	Requested Allowable Opacity Normal Conditions: 10 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: Annual VE Test, EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters): Applies to Bulk Cement Loadout Units 1 and 2. Based on NSPS 40 CFR 60.62(c).

**J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)**

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [] Rule [] Other	
4. Monitor Information: Monitor Manufacturer: Model Number:	Serial Number:
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [] Rule [] Other	
4. Monitor Information: Monitor Manufacturer: Model Number:	Serial Number:
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT
TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)**

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.
- The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.
- None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
	SO ₂	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
	NO ₂	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO ₂	lb/hour		tons/year
	NO ₂			tons/year
5.	PSD Comment (limit to 200 characters):			
	Emission unit does not emit SO₂ or NO_x. Baseline emissions are unknown.			

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)**

Supplemental Requirements for All Applications

1.	Process Flow Diagram	<input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment A</u>	<input type="checkbox"/> Waiver Requested
		<input type="checkbox"/> Not Applicable	
2.	Fuel Analysis or Specification	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
		<input checked="" type="checkbox"/> Not Applicable	
3.	Detailed Description of Control Equipment	<input checked="" type="checkbox"/> Attached, Document ID: <u>TA-E04-L3</u>	<input type="checkbox"/> Waiver Requested
		<input type="checkbox"/> Not Applicable	
4.	Description of Stack Sampling Facilities	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Waiver Requested
		<input checked="" type="checkbox"/> Not Applicable	
5.	Compliance Test Report	<input type="checkbox"/> Attached, Document ID: _____	<input type="checkbox"/> Not Applicable
		<input checked="" type="checkbox"/> Previously Submitted, Date: _____	
6.	Procedures for Startup and Shutdown	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
7.	Operation and Maintenance Plan	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
8.	Supplemental Information for Construction Permit Application	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable
9.	Other Information Required by Rule or Statute	<input type="checkbox"/> Attached, Document ID: _____	<input checked="" type="checkbox"/> Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Acid Rain Permit Application (Hard Copy Required) <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

9651137Y/F1/WP/TA-E04
12/05/96

Table TA-E04-E3. Emission Point Detail Information for Cement Storage/Loadout, Emission Unit 04,
Tarmac America, Pennsuco

Source	Baghouse ID	Stack Ht (ft)	Estimated	Exit Temp. (F)	Flowrate (acfm)
			Stack Diam (ft)		
Cement Silos 7-9	F-512	200	1	77	10,000
Bulk Loadout Unit 1	B-110	30	1	77	3,000
Bulk Loadout Unit 2	B-210	30	1	77	3,000

9651137Y/F1/WP/TA-E04
12/05/96

Table TA-E04-L3. Control Equipment Information for Cement Storage/Loadout , Emission Unit 04. Tarmac America, Pennsuco

Source ID	Baghouse ID	Manufacturer	Model No.	Number of Bags	Flow Rate (acfm)	Cloth Area (ft ²)	Air to Cloth Ratio
Cement Silos 7-9	F-512	Norblo	156 AMT	156	10,000	2142	4.7
Bulk Loadout Unit 1	B-110	Norblo	120 AMT	120	3,000	1650	1.8
Bulk Loadout Unit 2	B-210	Norblo	120 AMT	120	3,000	1650	1.8

ATTACHMENT A

ATTACHMENT A

1.0 INTRODUCTION

Tarmac America, Inc. (Tarmac), is proposing to process up to 300,000 tons per year of blast furnace slag at its existing Portland cement plant located in Medley, Florida. In order to process this raw material, a dryer will be installed and fueled by low sulfur fuel oil or natural gas. The slag material will be brought to the facility by truck, dried, and then conveyed via a new conveying system to the existing cement plant clinker handling system and storage silos. The dried slag will be ground and stored in the existing silos for shipment. The slag will be shipped to concrete batch plants for use as a raw material in concrete.

In August 1995, Tarmac submitted an air construction (AC) permit application for a slag dryer. Permit AC13-273887 (PSD-FL-230) was issued on October 27, 1995. The existing slag dryer and baghouse were fabricated in 1971. Unfortunately, the existing slag dryer has not demonstrated successful performance. Therefore, Tarmac is applying for a new replacement slag dryer. Tarmac has discussed the air permitting requirements with FDEP. Pursuant to those discussions, the permit application approach is to consider the existing slag dryer as not yet constructed, and therefore not part of the source's baseline emissions. This approach is reasonable when considering that no permit to operate the existing slag dryer has been issued and that the existing dryer will be shut down. The existing slag dryer will be shut down permanently and Permit AC13-273887 (PSD-FL-230) will be surrendered once the proposed new slag dryer becomes operational.

A description of the proposed project is presented in Section 2.0. Existing and future maximum air emissions from affected emissions units at the facility are described in Section 3.0. Air quality regulations applicable to the proposed project are described in Section 4.0. Based on this analysis, the project will be subject to prevention of significant deterioration (PSD) review. However, since the proposed project will utilize best available control technology (BACT), and the increase in emissions of all regulated pollutants due to the project will be less than 50 TPY, the project is exempt from all PSD new source review requirements except application of BACT. The BACT analysis is presented in Section 5.0.

2.0 PROJECT DESCRIPTION

Tarmac, currently operates a portland cement plant located in Medley, Dade County, Florida (refer to Figures 2-1 and 2-2). A single air operating permit (AO13-238048, issued Dec. 17, 1993) regulates air emissions from the cement plant.

Tarmac is proposing to process blast furnace slag from iron foundries into an alternative cement type product. It is currently anticipated that up to 300,000 tons per year (TPY) of slag could be processed. The slag will be delivered to the facility via truck (refer to flow diagram, Figure 2-3). The delivered slag is wet, typically in the range of 15 to 18 percent moisture, hence the need to dry the slag prior to use. The slag will be delivered to an open storage area within the existing cement plant (see Figure 2-3). As needed, it will then be picked up by front end loader and fed into a hopper, onto a conveyor, and then into the proposed slag dryer. The slag dryer will dry the slag to approximately 3 to 5 percent moisture. The maximum process rate for the dryer will be 150 tons per hour (TPH) of wet slag into the dryer.

From the dryer, the slag falls onto a new conveying system and is transferred to the clinker handling system (see Figure 2-4). The new conveying system for the dried slag will be controlled by a new baghouse. The slag will be delivered to the existing Clinker Silos 21, 22, 23, 26, 27 and/or 28. From the silos, the slag will be ground in Finish Mill #4. The ground slag will then be transferred and stored in the existing Cement Silos 7, 8 and/or 9, and then shipped out via the existing Bulk Cement Loadout Units 1 and 2.

Tarmac will utilize a new slag dryer fabricated by Gencor or equivalent. The dryer will burn natural gas or No. 2 fuel oil with a maximum sulfur content of 0.2 percent. Maximum heat input to the dryer will be 72 MMBtu/hr. A 10,000 gallon fuel oil storage tank will be installed to store the fuel oil. The unit includes a new baghouse for particulate matter (PM) control. The baghouse for the slag dryer will be a Gencor Model N85 or equivalent. Pertinent data for the proposed slag dryer baghouse is as follows:

Air flow rate: 54,600 acfm (34,100 dscfm)

Gas temperature: 300°F

Cloth area: 8,482 ft²

Air/cloth ratio: 6.4:1

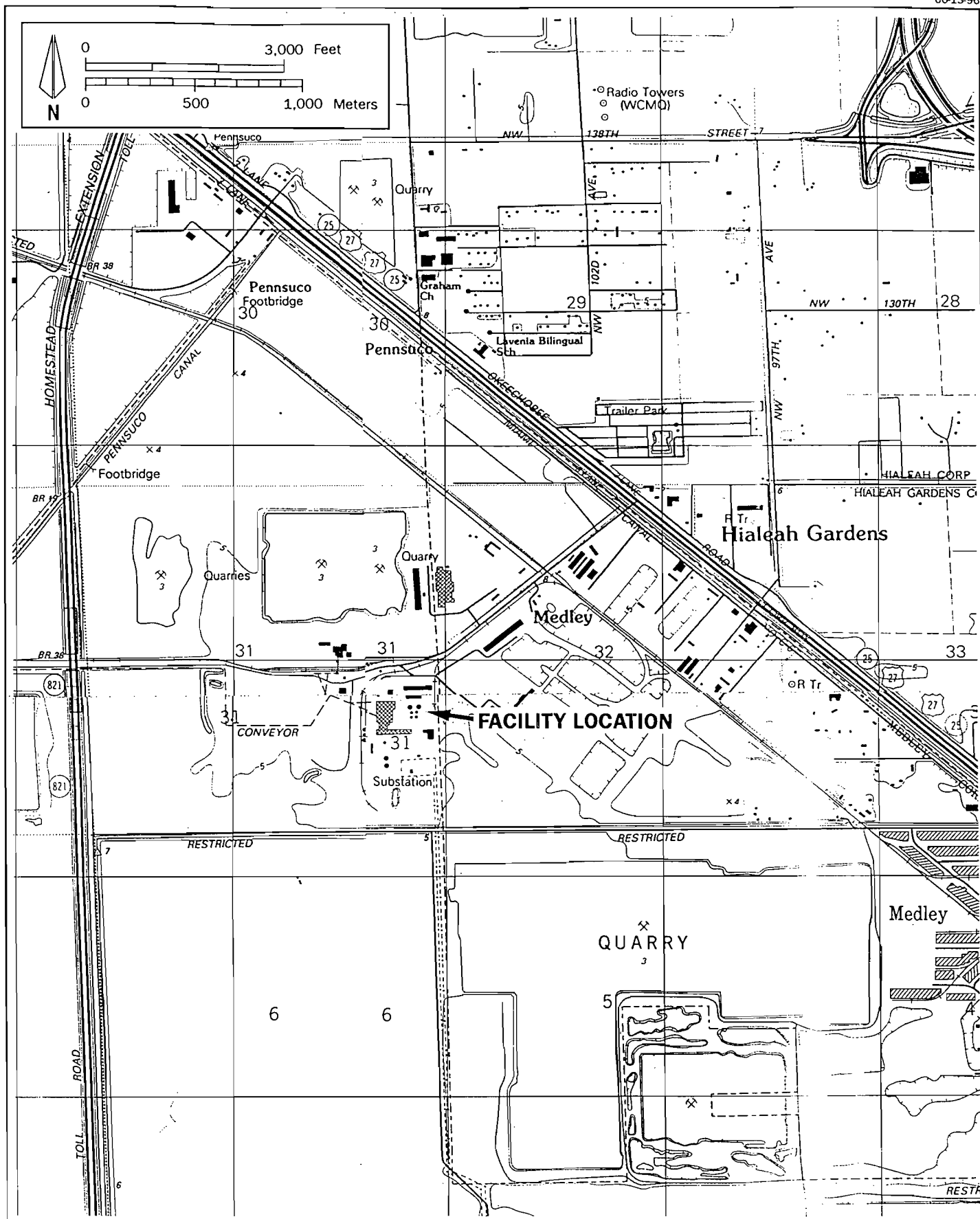
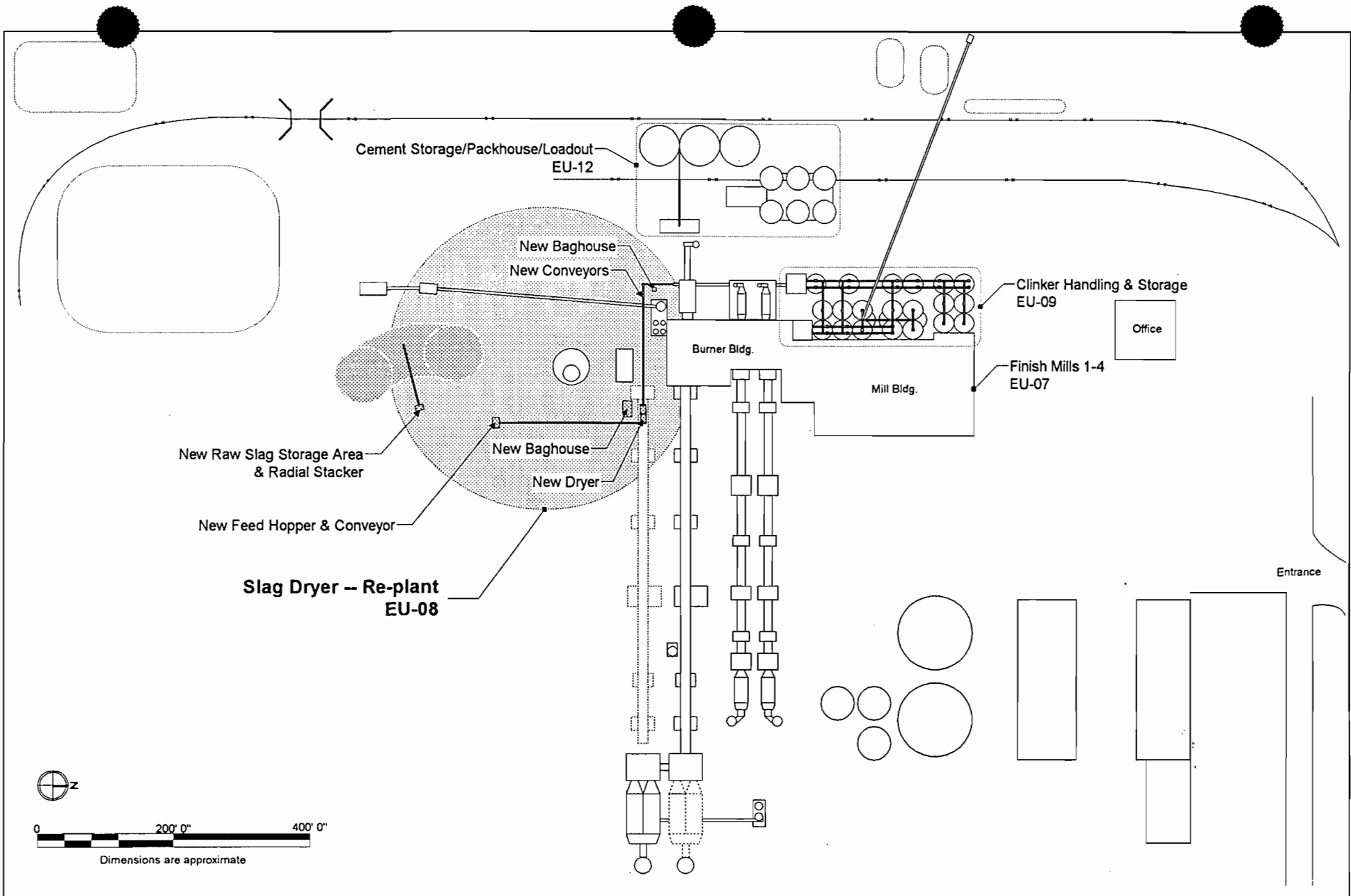


Figure 2-1
 Area Map, TARMAC America, Pennsuco Cement Plant

Sources: USGS, 1988; KBN, 1996.





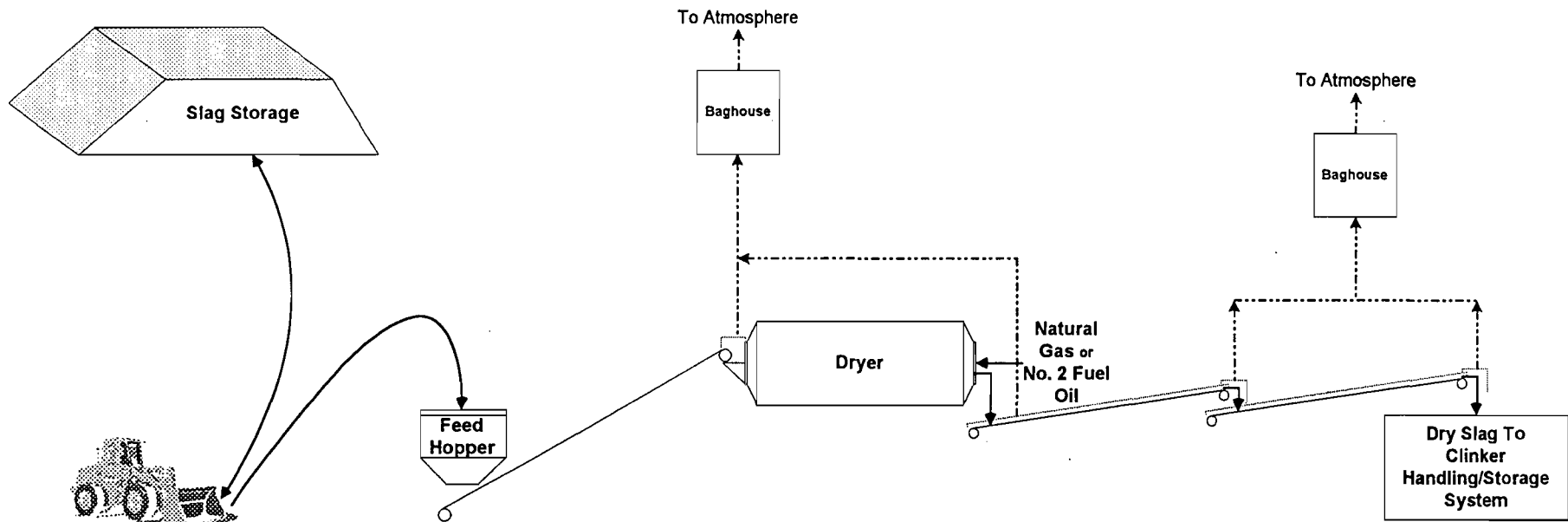
4.

**FIGURE 2-2
Slag Dryer - Re-plant
Facility Plot Plan**

FACILITY:		
Pennsuco Cement		
ID #	FacID #	DATE
0250020	FL007-04	Dec 1996

Tarmac 

Tarmac America, Inc.
455 Fairway Drive
Deerfield Beach, FL 33441



Process Flow Legend	
Solid/Liquid	—————▶
Gas	- - - - -▶

**FIGURE 2-3
Slag Dryer – Re-plant
Process Flow Diagram**

FACILITY:

Pennsuco Cement

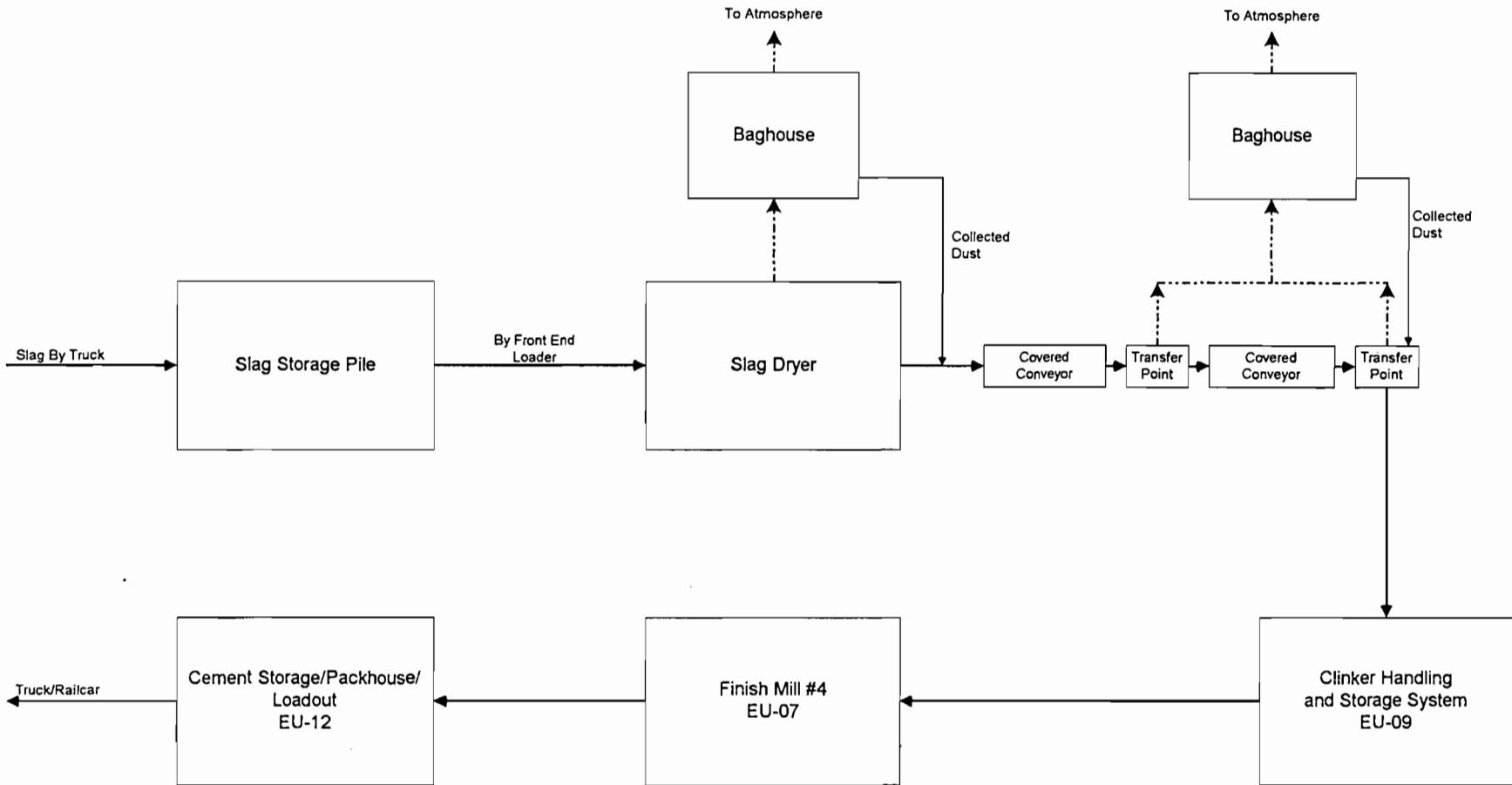
ID #
0250020

FacID #
FL007-04

DATE
Dec 1996

Tarmac 

Tarmac America, Inc.
455 Fairway Drive
Deerfield Beach, FL 33441



Process Flow Legend	
Solid/Liquid	—————>
Gas	- - - - ->

FIGURE 2-4
Slag Dryer -- Re-plant
Process Flow Diagram

FACILITY:

Pennsuco Cement

ID #
0250020

FacID #
FL007-04

DATE
Dec 1996

Tarmac 

Tarmac America, Inc.
455 Fairway Drive
Deerfield Beach, FL 33441

Cloth type: 14 oz. nomex felt

Cleaning method: Pulse jet

Outlet grain loading: vendor guarantee maximum of 0.04 gr/dscf

A typical analysis of iron slag is presented in Table 2-1. As shown, the slag is primarily composed of calcium oxide (lime) and silicon oxides, with smaller amounts of aluminum oxide.

Table 2-1. Analysis of Iron Slag

Parameter	Composition (% by weight, wet)
Silicon Oxide	33.0
Aluminum Oxide	14.3
Iron Oxide	1.9
Calcium Oxide	40.0
Sulfur Trioxide	1.8
Moisture	9.0

Source: Tarmac America, 1995.

3.0 AIR EMISSIONS

3.1 EMISSION UNIT 1: SLAG DRYER AND HANDLING OPERATIONS

The maximum PM emissions from the slag dryer are based on an outlet dust loading from the baghouse of 0.04 gr/dscf. Based on the maximum air flow rate of approximately 54,600 acfm at 300°F, the dry standard air flow rate is 34,100 dscfm (assuming about 10 percent moisture). Maximum operating hours for the dryer will be 3,120 hr/yr. Maximum PM emissions are therefore:

$$34,100 \text{ dscfm} \times 0.04 \text{ gr/dscf} \times 60 \text{ min/hr} / 7000 \text{ gr/lb} = 11.7 \text{ lb/hr}$$

$$11.7 \text{ lb/hr} \times 3,120 \text{ hr/yr} \times \text{ton}/2,000 \text{ lb} = 18.24 \text{ TPY}$$

PM10 emissions are assumed to be equal to PM emissions.

The potential emissions from the new baghouse serving the proposed conveying system are estimated in a similar manner. The design airflow is 3,000 acfm, and the design outlet grain loading is 0.01 gr/acf. Therefore:

$$3,000 \text{ acfm} \times 0.01 \text{ gr/acf} \times 60 \text{ min/hr} / 7000 \text{ gr/lb} = 0.26 \text{ lb/hr}$$

$$0.26 \text{ lb/hr} \times 3,120 \text{ hr/yr} \times \text{ton}/2,000 \text{ lb} = 0.40 \text{ TPY}$$

Emissions of other pollutants from the slag dryer are due to fuel combustion and are presented in Table 3-1. The emissions are based on AP-42 emission factors for fuel oil and natural gas combustion. Potential emissions are presented for both natural gas and No. 2 fuel oil firing.

The slag dryer system will include a transfer point along a new conveying system. PM emissions from the transfer point will be controlled as described previously. The estimated fugitive PM emissions from remaining transfer operations are quantified in Table 3-2. Also included in Table 3-2 are fugitive PM emissions due to wet slag handling, storage, and potential wind erosion from the wet slag storage pile. The derivation of the emissions due to wind erosion are presented in the Appendix.

The maximum PM emissions from the handling sources are 1.8 and 0.6 TPY of PM and PM10, respectively. Therefore, the total potential PM and PM10 emissions from the new equipment are 20.4 (18.24 + 0.40 + 1.8), and 19.2 (18.24 + 0.40 + 0.6) TPY, respectively.

Table 3-1. Maximum Emissions Due to Fuel Combustion for Proposed Slag Dryer, Tarmac America

Parameter	No. 2 Fuel Oil	Natural Gas
OPERATING DATA ^a		
Operating Time	3,120 hr/yr	3,120 hr/yr
Heat Input Rate	72.0 MMBtu/hr	72.0 MMBtu/hr
Heat Value	140,000 MMBtu/gal	1000 Btu/scf
Hourly Fuel Use	514.3 gal/hr	72.00 MMscf/hr
Annual Fuel Use	1,604,521 gal/yr	224,633 MMscf/yr
Max Sulfur Content	0.2 Wt%	0.01 gr/scf

Pollutant	Fuel Oil Emission Factor ^b	Maximum Emissions		Natural Gas Emission Factor ^b	Maximum Emissions		
		lb/hr	TPY		lb/hr	TPY	
EMISSION DATA							
SO ₂	142*S lb/Mgal ^c	14.61	22.78	0.60 lb/MMscf	0.043	0.067	
NO _x	20 lb/Mgal	10.29	16.05	140.00 lb/MMscf	10.08	15.72	
CO	5 lb/Mgal	2.57	4.01	35.00 lb/MMscf	2.52	3.93	
NM _{VOC}	0.2 lb/Mgal	0.103	0.16	3.83 lb/MMscf	0.28	0.43	
Sulfuric Acid Mist	0.1225 lb/Mgal	0.063	0.10	NA	--	--	
Lead-Total	8.9E-06 lb/MMBtu	6.41E-04	1.00E-03	NA	--	--	
Mercury	3.0E-06 lb/MMBtu	2.16E-04	3.37E-04	NA	--	--	
Beryllium	2.5E-06 lb/MMBtu	1.80E-04	2.81E-04	NA	--	--	

Note: NA = not applicable.

^a Fuel oil use is based on 140,000 Btu/gal for 0.2% S oil. Heat Input Rate is based on 0.48 MMBtu/ton and 150 ton/hr throughput

^b Emission factors are based on AP-42 5th Edition, Tables 1.3-2, 1.3-4, and 1.3-11 for oil use and and 1.4-1 and 1.4-3 for gas. NM_{VOC} factor for gas is reduced by 34% to reflect presence of methane.

^c "S" denotes the weight % sulfur in fuel oil; max sulfur content = 0.2%

Table 3-2. Fugitive Dust Emission Estimates For Slag Project, Tarmac America, Inc.

SOURCE	TYPE OF OPERATION	M MOISTURE CONTENT (%)	U WIND SPEED (MPH)	UNCONTROLLED		CONTROLLED		MAXIMUM THROUGHPUT (TPY)	MAXIMUM ANNUAL PM(TSP) EMISSIONS (TPY)	PM10 SIZE MULT.	MAXIMUM ANNUAL PM10 EMISSIONS (TPY)
				EMISSION FACTOR ^a (LB/TON)	CONTROL	CONTROL EFFICIENCY (%)	EMISSION FACTOR (LB/TON)				
TRUCK DUMP/RADIAL STACKER	BATCH DROP	3	9	0.00389	NONE	0	0.00389	300,000	0.584	0.35	0.204
FRONT-END LOADER-TO-HOPPER	BATCH DROP	3	9	0.00389	NONE	0	0.00389	300,000	0.584	0.35	0.204
HOPPER-TO-BELT	CONTINUOUS DROP	3	9	0.00389	NONE	0	0.00389	300,000	0.584	0.35	0.204
SLAG STORAGE PILE	WIND EROSION	--	--	--	NONE	0	--	--	0.022	0.5	0.011
TOTAL									1.775		0.625

Notes:

^a Batch Drop and Continuous Drop Emission Factors are computed from AP-42 (USEPA, 1988), Section 11.2.3:

$$E = 0.0032 \times (U/5)^{1.3} / (M/2)^{1.4} \text{ lb/ton}$$

^b Refer to Appendix for derivation.

3.2 EMISSION UNITS 2, 3, AND 4: CLINKER/CEMENT STORAGE AND HANDLING SOURCES

The existing facilities affected by the slag utilization consists of Clinker Storage Silos 21, 22, 23, 26, 27 and 28; Finish Mill #4; Cement Silos 7-9; and the Bulk Cement Loadout Units 1 and 2. All of these sources are controlled by baghouses. The current existing PM emissions for these sources, based on average operating hours for 1994-1995, are presented in Table 3-3. The proposed maximum PM emissions from each of these sources is shown in Table 3-4, based on future maximum operating hours of 8,760 hr/yr for clinker and cement production sources and 3,120 hr/yr slag for the dryer system.

In the case of Finish Mill #4, the PM emissions are currently limited by the process weight table according to operating permit AO13-157297. However, the process weight table severely overestimates the actual emissions from these baghouse controlled sources. The baghouse on Finish Mill #4 is designed to achieve an outlet dust loading of 0.01 gr/acf. Therefore, Tarmac is proposing to lower the allowable PM emissions from Finish Mill #4 to 0.01 gr/acf, based on baghouse design.

Table 3-3. Actual 1994-1995 Particulate Emissions From Affected Point Sources, Tarmac America, Inc.

Application Unit ID	Emission Unit/Point	Emission Point ID	Control Equipment Type	Maximum Process Rate (TPH)	Air Flow Rate (cfm)	PM/PM10 Emission Factor	PM/PM10 Emissions		
							(lb/hr)	(hr/yr) ^a	(TPY)
EU 2	Clinker Handling System Conveyor/Bucket Elevator	K-447/K347	Baghouse	300	5,000	0.01 gr/acf	0.43	7,425	1.59
EU 2	Clinker Storage Silos Clinker silos 21, 22, 23, 26, 27 & 28	K-633	Baghouse	300	1,500	0.01 gr/acf	0.13	7,425	0.48
EU 3	Finish Mill #4								
	Ball mill/mill sweep	F-430	Baghouse	150	30,000	0.01 gr/acf	2.57	2,240	2.88
	Belt conveyor/separator/cement pump	F-432	Baghouse	150	17,000	0.01 gr/acf	1.46	2,240	1.63
	Clinker/gypsum conveyors	F-603	Baghouse	150	8,000	0.01 gr/acf	0.69	2,240	0.77
	Clinker/gypsum conveyors	F-604	Baghouse	150	8,000	0.01 gr/acf	0.69	2,240	0.77
EU 3	Clinker/gypsum conveyors	F-605	Baghouse	150	4,000	0.01 gr/acf	0.34	2,240	0.38
EU 4	Cement Storage Silos 1-9 Cement Silos 7-9	F-512	Baghouse	150	10,000	0.01 gr/acf	0.86	5,973	2.56
EU 5	Bulk Cement Loadout Units 1 & 2								
	Railcar/Truck Unit 1	B-110	Baghouse	300	3,000	0.01 gr/acf	0.26	2,512	0.32
	Truck Unit 2	B-210	Baghouse	300	3,000	0.01 gr/acf	0.26	2,512	0.32
TOTAL						TOTAL =	7.67		11.70

^a Reflects the average of annual hours of operation during 1994 and 1995.

Table 3-4. Future Maximum Particulate Emissions From Affected Point Sources, Tarmac America, Inc.

Application Unit ID	Emission Unit/Point	Emission Point ID	Control Equipment Type	Maximum Process Rate (TPH)	Air Flow Rate (cfm)	PM/PM10 Emission Factor	PM/PM10 Emissions		
							(lb/hr)	(hr/yr) _a	(TPY)
EU 1	Slag Dryer	SLAG	Baghouse	150	34,100(a)	0.04 gr/dscf	11.69	3,120	18.24
EU 1	Dry Slag Conveying System Conveyor/Transfer Tower	Unknown	Baghouse	150	3,000	0.01 gr/acf	0.26	3,120	0.40
EU 2	Clinker Handling System No. 3 Conveyor/Bucket Elevator Conveyor/Bucket Elevator	K-347	Baghouse	150	5,000	0.01 gr/acf	0.43	8,760	1.88
		K-447	Baghouse	150	5,000	0.01 gr/acf	0.43	8,760	1.88
EU 2	Clinker Storage Silos Clinker silos 21, 22, 23, 26, 27 & 28	K-633	Baghouse	237.5	1,500	0.01 gr/acf	0.13	8,760	0.56
EU 3	Finish Mill #4 Ball mill/mill sweep Belt conveyor/separator/cement Clinker/gypsum conveyors Clinker/gypsum conveyors Clinker/gypsum conveyors	F-430	Baghouse	150	30,000	0.01 gr/acf	2.57	8,760	11.26
		F-432	Baghouse	150	17,000	0.01 gr/acf	1.46	8,760	6.38
		F-603	Baghouse	150	8,000	0.01 gr/acf	0.69	8,760	3.00
		F-604	Baghouse	150	8,000	0.01 gr/acf	0.69	8,760	3.00
		F-605	Baghouse	150	4,000	0.01 gr/acf	0.34	8,760	1.50
EU 4	Cement Storage Silos 1-9 Cement Silos 7-9	F-512	Baghouse	150	10,000	0.01 gr/acf	0.86	8,760	3.75
EU 4	Bulk Cement Loadout Units 1 & 2 Railcar/Truck Unit 1 Truck Unit 2	B-110	Baghouse	300	3,000	0.01 gr/acf	0.26	8,760	1.13
		B-210	Baghouse	300	3,000	0.01 gr/acf	0.26	8,760	1.13
TOTAL							8.36		54.12

Notes:
(a) Airflow reflects dscfm.

4.0 REGULATORY APPLICABILITY

4.1 PSD NEW SOURCE REVIEW

A comparison of the net increase in emissions of regulated PSD pollutants due to the proposed project is presented in Table 4-1. The current actual emissions are based on existing facilities which will be affected by the project, i.e., the cement production facilities. The future maximum emissions include emissions due to both new facilities and the existing facilities which will be affected. The PSD significant emission rates are also shown in Table 4-1.

As shown, the net increase in PM and PM10 emissions will exceed the PSD significant emission rate of 25 and 15 TPY, respectively. Therefore, the proposed project is subject to PSD review for PM/PM10. However, because the net increase in emissions for each pollutant due to the proposed project are less than 50 TPY, the proposed modification is exempt from several of the requirements under PSD new source review [F.A.C. Rule 62-212.400(3)(d)]. The project is exempt from the requirements of Rule 62-212.400(5)(d), (e), (f) and (g), which are the requirements for ambient impact analysis, additional impact analysis, preconstruction air quality monitoring analysis, and post construction monitoring. Therefore, the proposed project is only subject to the control technology review requirements under PSD rules [62-212.400(5)(b) and (c)]. The control technology analysis for PM/PM10 is presented in Section 5.0.

4.2 STATE OF FLORIDA EMISSION STANDARDS

The State of Florida emission limiting standards for aggregate dryers consist of a PM limit based on the process weight table, and a visible emissions limitation, [Rule 62-296.320(4)(a) and (b), F.A.C.]. Based on a maximum process weight input rate of 150 TPH, the process weight table would allow up to 38.6 lb/hr of PM emissions. However, Tarmac will limit PM emissions from the slag dryer to 11.7 lb/hr based on fabric filter control technology (i.e., 0.04 gr/dscf). The regulations limit visible emissions from the dryer and materials handling operations to no more than 20 percent opacity.

Table 4-1. Emissions Increase Associated With Slag Project, Tarmac America, Inc.

Regulated Pollutant	Affected Point Sources				PSD Significant Emission Rate (TPY)	PSD Review Applies?
	(A) Fugitives From Slag Handling (TPY)	(B) Current Actuals (TPY)	(C) Future Maximums (TPY)	(A-B + C) Net Increase In Emissions (TPY)		
Particulate matter (TSP)	1.78	11.70	54.12	44.2	25	Yes
Particulate matter (PM10)	0.62	11.70	54.12	43.0	15	Yes
Sulfur dioxide	--	--	--	22.78	40	No
Nitrogen oxides	--	--	--	16.05	40	No
Carbon monoxide	--	--	--	4.01	100	No
Volatile organic compounds	--	--	--	0.43	40	No
Sulfuric acid mist	--	--	--	0.10	7	No
Total reduced sulfur	--	--	--	--	10	No
Lead	--	--	--	1.0E-03	0.6	No
Mercury	--	--	--	3.4E-04	0.1	No
Beryllium	--	--	--	2.8E-04	4.0E-04	No
Fluorides	--	--	--	--	3	No
Asbestos	--	--	--	--	0.007	No
Vinyl Chloride	--	--	--	--	1	No

Fugitive PM emissions are associated with this project. Pursuant to Rule 62-296 the State of Florida requires reasonable precautions be applied for unconfined emissions of PM, [Rule 62-296.320(4)(c), F.A.C.]. Tarmac will employ reasonable precautions to prevent fugitive dust emissions in regards to the slag drying operation. Tarmac will control dust by covering conveying systems, applying baghouses on transfer points and storing dried slag in silos. Watering will be performed as needed on the wet slag storage pile. Tarmac will use the visible emissions standard of 20% as a guide in determining when to employ watering to the storage pile, slag loading hopper, and conveyors/transfer points.

After startup of the operation, if these measures are not sufficient to maintain visible emissions below 20%, additional measures will be employed. These measures may include, but may not be limited to, installation of a permanent water application system and additional enclosures to reduce entrainment of dust by wind.

4.3 FEDERAL NEW SOURCE PERFORMANCE STANDARDS

Federal new source performance standards (NSPS) have been promulgated by the U.S. EPA for Portland Cement Plants (Subpart F), Volatile Organic Liquid Storage Vessels (Subpart Kb), nonmetallic mineral processing plants (40 CFR 60, Subpart OOO) and for dryers and calciners in the mineral industries (40 CFR 60, Subpart UUU). Tarmac has reviewed the potentially applicable NSPS contained in 40 CFR 60, and has concluded that Subpart F will apply to one baghouse, and Subparts Kb, OOO, and UUU will not apply to any part of the project. Each potentially applicable NSPS, and the rationale for non-applicability, is discussed below.

In this discussion, the concept of "modification" as defined by the NSPS is referred to. Modification is defined as any physical or operational change to an existing facility which increases emissions of the NSPS-regulated pollutant on a lb/hr basis. However, the following by themselves are not considered to be modifications:

1. An increase in the production rate, if that increase can be accomplished without a capital expenditure on the facility.
2. An increase in the hours of operation.
3. Use of alternative raw material, if the facility was designed to accommodate that alternative use prior to the applicability date.

4.3.1 Subpart F - Portland Cement Plants

This subpart applies to affected facilities in Portland cement plants, including finish mill systems, finished product storage, conveyor transfer points, and bulk loading systems. These facilities are the potentially affected facilities within the Tarmac cement plant in regards to the slag dryer project.

In regard to the existing conveying system which conveys clinker, the processing of slag could potentially increase the particulate matter (PM) emissions on a lb/hr basis. However, no capital expenditure on the conveying system is necessary to accommodate the slag, and the slag is a raw material that the facility was designed to accommodate as of August 17, 1971 (the cement plant raw material conveying system was built prior to August 17, 1971). The conveyor transfer points associated with the new conveying system for the slag from the pile through the dryer and into the clinker handling systems will be required to meet 10% opacity limits.

In regard to the existing finish mill (Finish Mill #4), finished product storage and conveying, and bulk loading and conveying systems, the processing of slag would not result in any increase in PM emissions on a lb/hr basis, since finished Portland cement and the slag will have similar particle size and moisture characteristics. Hourly production rates will not increase above current rates, no capital expenditure on the systems are necessary to accommodate the slag, and the slag is a material that the facility was designed to accommodate as of August 17, 1971 (the cement plant raw material conveying system was built prior to August 17, 1971). It is noted that Clinker Silos 21-23 & 26-28, Finish Mill 4, and Bulk Cement Loadout Units 1-2 are already subject to Subpart F.

In conclusion, the slag project will not change the current Subpart F designations for the existing equipment at the cement plant. The proposed slag conveying system, however, will be subject to NSPS requirements.

4.3.2 Subpart Kb - Volatile Organic Liquid Storage Vessels

Tarmac will be constructing a 10,000 gallon fuel oil storage tank. The minimum size tank covered by Subpart Kb is 40 m³, which is 10,568 gallons. Therefore, the Tarmac tank will be below the applicable size threshold.

4.3.3 Subpart UUU - Calciners And Dryers in Mineral Industries

This subpart applies to dryers at mineral processing plants. Mineral processing plants are facilities that produce or process any of the following minerals, their concentrates, or any mixture the majority (>50%) of which is any of the following materials, or a combination of these materials. For clarification, a description of each material is provided, taken from the Background Information Document (BID) on the proposed standards:

Alumina- material chemically extracted from bauxite

Ball clay- material composed primarily of kaolinite and quartz

Bentonite- clay consisting primarily of smectite materials

Diatomite- Chalky, sedimentary rock formed by diatoms

Feldspar- Ingenous rocks consisting mainly of aluminum silicates

Fire Clay- Composed of hydrous silicates of aluminum

Fuller's earth- Composed mainly of nonplastic clay or clay like materials

Gypsum- Calcium sulfate dihydrate (occurring naturally)

Industrial sand- Naturally occurring rock particles, 4.8 mm to 74 μm in size

Kaolin- Clay composed primarily of kaolinite

Lightweight aggregate- Calcined clay, shale or slate

Magnesium compounds- From natural brine solutions, magnesite deposits

Perlite- Volcanic rock

Roofing granules- Rock of fired clay used in making roofing shingles

Talc- A hydrous magnesium silicate material

Titanium dioxide- Pigments produced by the chloride or sulfate process

Vermiculite- Aluminum-iron-magnesium silicates that resemble mica

Nearly all of these materials are naturally occurring and are obtained through mining operations.

Tarmac will not process any of these materials in the slag dryer. In the case of the lightweight aggregate category, some clarification is warranted. The BID states that the lightweight aggregate (LWA) industry encompasses the processing of clay-like materials into low density product (see attached excerpt from the BID). LWA is produced by calcining clay, shale or slate. The BID mentions that substitutes for the more common raw materials in the production of LWA products are natural pumice and blast furnace slag. However, the BID only addresses calciners used to

produce LWA, and does not address dryers used to only dry LWA, nor does it address processing of the alternative raw materials. Considering the above aspects, it is concluded that Subpart UUU does not apply to the proposed Tarmac slag dryer. Excerpts from the BID are presented in the Appendix.

4.3.4 Subpart OOO - Nonmetallic Mineral Processing Plants

This subpart applies to certain processing operations at nonmetallic mineral processing plants. Nonmetallic mineral processing plants are facilities that crush or grind any nonmetallic mineral, wherever located, including at Portland cement plants. Tarmac operates a nonmetallic mineral processing plant adjacent to the existing cement plant. However, the proposed project will be located at the cement plant and no construction or change in the method of operation will take place at the adjacent nonmetallic mineral processing plant. Portions of the adjacent plant are already subject to the Subpart OOO standards. Included in Subpart OOO is a list of covered nonmetallic minerals. This list is similar to the minerals listed under Subpart UUU. Blast furnace slag is not included in this list (nor is lightweight aggregate). As a result, it is concluded that Subpart OOO does not apply to the proposed Tarmac slag dryer.

5.0 BEST AVAILABLE CONTROL TECHNOLOGY ANALYSIS

5.1 REQUIREMENTS

The 1977 Clean Air Act Amendments established requirements for the approval of preconstruction permit applications under the PSD program. One of these requirements is that the best available control technology (BACT) be installed for applicable pollutants. BACT determinations must be made on a case-by-case basis considering technical, economic, energy, and environmental impacts for various BACT alternatives. To bring consistency to the BACT process, the EPA developed the so called "top-down" approach to BACT determinations. As mentioned previously, this approach has been challenged in court and a settlement agreement reached which requires EPA to initiate formal rulemaking on the top down approach. Nonetheless, in the absence of formal rules related to this approach, the "top-down" approach is followed in the Tarmac BACT analysis.

The first step in a top-down BACT analysis is to determine, for each applicable pollutant, the most stringent control alternative available for a similar source or source category. If it can be shown that this level of control is not feasible on the basis of technical, economic, energy, or environmental impacts for the source in question, then the next most stringent level of control is identified and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any technical, economic, energy, or environmental consideration.

In the case of the proposed modification at Tarmac, PM(TSP)/PM10 require BACT analysis. Only the slag dryer system requires BACT analysis as this is the only emissions units being added or physically modified as part of the project. The following sections present the BACT analysis.

5.2 BACT ANALYSIS FOR PM EMISSIONS

5.2.1 Slag Dryer

Tarmac is proposing a PM emission limit of 0.04 gr/dscf as BACT. This limit is equivalent to the new source performance standards (NSPS) which have been promulgated for asphalt concrete plants (40 CFR 60, Subpart I). The asphalt plant NSPS is based on fabric filter or venturi scrubber control technology, although fabric filter technology has been found to more consistently achieve the NSPS level. A second review of the asphalt plant NSPS conducted by EPA in 1985 demonstrated that fabric filter control technology was the best demonstrated technology to comply

with the NSPS. Of 26 plants surveyed with fabric filter control, the typical air to cloth ratio was 6:1, and the most common filter fabric was 14 ounce weight nomex.

The new Tarmac slag dryer and baghouse serving the slag dryer will be fabricated by Gencor, or equivalent. The dryer is designed on the basis of an asphaltic concrete or aggregate dryer with fabric filter control. The air to cloth ratio is approximately 6.4:1, and 14 ounce nomex bags (or equivalent) will be used. Therefore, it is believed that the asphalt NSPS of 0.04 gr/dscf can be achieved by the Tarmac system, although the drying of slag could cause higher inlet dust loadings to the fabric filter compared to an asphaltic dryer.

Currently, the only information available concerning slag dryers is that from the existing Tarmac slag dryer installation. It is known that this existing system has experienced PM emission rates of approximately 0.04 gr/dscf. It is also believed that the baghouse serving the existing slag dryer is not operating properly. It is therefore believed that outlet dust loadings lower than 0.04 gr/dscf could be achieved by the new system; however, the actual performance cannot be accurately predicted based on existing information. Gencor has based their emission guarantee on the asphalt plant NSPS of 0.04 gr/dscf.

A review of previous BACT determinations for PM emissions from asphaltic dryers and similar materials dryers was conducted. The results of this review is presented in Table 5-1. It is noted that all determinations found were issued prior to 1991. However, all previous BACT determinations for asphalt plants were equal to the NSPS of 0.04 gr/dscf and were based on baghouse control technology. This demonstrates that baghouse technology is the best technology for application on asphalt plants and similar dryers.

A number of other determinations were found in the BACT Clearinghouse for various material dryers. However, many of these were expressed in terms not readily converted to a grain loading. In addition, these dryers were for materials other than slag, and the differences and/or similarities between these facilities and Tarmac are not readily definable.

In conclusion, Tarmac's proposed PM emission limit of 0.04 gr/dscf is equivalent to all previous BACT determinations for asphalt plant dryers. Considering the uncertainty associated with actual emissions from the drying of wet slag, a lower PM limit cannot be proposed at this time.

Table 5-1. Summary of BACT Determinations for PM Emissions From Dryers of Aggregates/Non-Metallic Minerals

Plant Type/Company	Comments	State	Permit #	Permit Issue Date	New Source? (a)	Throughput	Emission Limit	Control Equipment
Asphalt Plants								
Lee Hy Paving Corp.		VA	50060	27-Jan-89	Yes	240,000 ton/yr	0.04 GR/DSCF	Baghouse
Lee Hy Paving Corp.		VA	(5)40031	14-Nov-86	Yes	200 ton/hr	0.04 GR/DSCF	Baghouse
B.P. Short & Sons Paving Co.		VA	50041	15-Apr-87	Yes	250 ton/yr	0.04 GR/DSCF	Baghouse
Blakemore Construction Corp.		VA	(3)40766	24-Jun-88	Yes	300 ton/yr	0.04 GR/DSCF	Baghouse
Concrete Plant								
Quikrete Co.		CT	145-0017	5-May-89	No	100,000 lb/hr	0.015 lb/hr	Baghouse
Lime Plants								
Austinville Limestone Co.		VA	10213	16-Sep-87	Yes	315,000 ton/yr	10.5 lb/hr	Fabric Filter
Dan River, Inc.		VA	30242	03-Dec-87	Yes	0	1.62 lb/hr	Baghouse
Stone Crushing Plant								
Luck Stone Corp.	Dryer Overhead Vent (2) Dryer Bottom Vent (4)	VA	50429	15-Aug-85	Yes	11,025 ton/yr 11,025 ton/yr	4.33 ton/yr (each) 3.3 ton/yr (each)	Baghouse Baghouse
Miscellaneous Plants								
Englehard Corp.	Calciner/Spray Dryer	GA	3295-158-4632-0	18-Nov-87	No	20 ton/hr	0.025 GR/DSCF	Baghouse after start-up
Manville Sales Corp., PLT #1		OH	04-545	N/A	Yes	2,600 lb/hr	0.37 lb/hour	Fabric Filter
Kyanite Mining Corp.		VA	30677	10-Jul-85	Yes	48 MMBtu/hr	30.91 ton/yr	N/A
ICI Americas, Inc.		VA	50418	26-Jan-89	Yes	1 ton/hr	0.004 lb/hr	Bagfilters
Omya, Inc.	Dryers, Spray, (2) Dryers, Flash, (2)	VT	VT-009	27-Jul-90	No	20 ton/hr (each) 6 ton/hr (each)	1.32 lb/hr 0.02 GR/DSCF	Multiple Cyclones Fabric Filter
Corona Ind.	Sand Dryer	CA	147795	25-Nov-86	Yes	100 ton/hr	72 lb/day	Cyclone Separator & Scrubber
Ocean Salt Co., Inc.	Salt Dryer	CA	157476	N/A	No	200 ton/day	26 lb/day	Scrubbers
Beadex MFG Co., Inc.	Calcium Carbonate Dryer	CA	183480	18-Sep-89	Yes	406,000 lb/day	150 lb/day	Baghouse

(a) Indicates if emission unit subject to BACT was new construction (yes) or a modification (no).

Source: BACT/RACT/LAER Clearinghouse Database, June 1995.

However, Tarmac is willing to conduct a testing program on the new slag dryer in order to set the appropriate BACT emission limit. As required by the existing slag dryer permit, a testing plan and protocol will be submitted to FDEP for approval prior to conducting the test program.

The proposed VE limitation is 20 percent opacity, which is equivalent to the NSPS limit for asphalt plants. This opacity limitation is also equivalent to the State of Florida limitation contained in F.A.C. 62-296.310.

5.2.2 Materials Handling Operations

Tarmac will employ reasonable precautions to prevent fugitive emissions from the handling and storage of slag. These measures will include use of enclosures where feasible, and watering as needed to minimize fugitive dust emissions.

The existing materials handling system to be used for slag conveying and transfer are not being physically modified. Therefore, according to 40 CFR 52.21, BACT does not apply to these emission units.

APPENDIX

AP-42 SECTIONS

AP-42
Fourth Edition
September 1985

COMPILATION OF AIR POLLUTANT EMISSION FACTORS

Volume I:
Stationary Point
And Area Sources

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office Of Air And Radiation
Office Of Air Quality Planning And Standards
Research Triangle Park, North Carolina 27711

September 1985

11.2.1 UNPAVED ROADS

11.2.1.1 General

Dust plumes trailing behind vehicles traveling on unpaved roads are a familiar sight in rural areas of the United States. When a vehicle travels an unpaved road, the force of the wheels on the road surface causes pulverization of surface material. Particles are lifted and dropped from the rolling wheels, and the road surface is exposed to strong air currents in turbulent shear with the surface. The turbulent wake behind the vehicle continues to act on the road surface after the vehicle has passed.

11.2.1.2 Emissions Calculation And Correction Parameters

The quantity of dust emissions from a given segment of unpaved road varies linearly with the volume of traffic. Also, field investigations have shown that emissions depend on correction parameters (average vehicle speed, average vehicle weight, average number of wheels per vehicle, road surface texture and road surface moisture) that characterize the condition of a particular road and the associated vehicle traffic.¹⁻⁴

Dust emissions from unpaved roads have been found to vary in direct proportion to the fraction of silt (particles smaller than 75 micrometers in diameter) in the road surface materials.¹ The silt fraction is determined by measuring the proportion of loose dry surface dust that passes a 200 mesh screen, using the ASTM-C-136 method. Table 11.2.1-1 summarizes measured silt values for industrial and rural unpaved roads.

The silt content of a rural dirt road will vary with location, and it should be measured. As a conservative approximation, the silt content of the parent soil in the area can be used. However, tests show that road silt content is normally lower than in the surrounding parent soil, because the fines are continually removed by the vehicle traffic, leaving a higher percentage of coarse particles.

Unpaved roads have a hard, generally nonporous surface that usually dries quickly after a rainfall. The temporary reduction in emissions caused by precipitation may be accounted for by not considering emissions on "wet" days (more than 0.254 millimeters [0.01 inches] of precipitation).

The following empirical expression may be used to estimate the quantity of size specific particulate emissions from an unpaved road, per vehicle kilometer traveled (VKT) or vehicle mile traveled (VMT), with a rating of A:

$$E = k(1.7) \left(\frac{s}{12}\right) \left(\frac{S}{48}\right) \left(\frac{W}{2.7}\right)^{0.7} \left(\frac{w}{4}\right)^{0.5} \left(\frac{365-p}{365}\right) \quad (\text{kg/VKT})$$

$$E = k(5.9) \left(\frac{s}{12}\right) \left(\frac{S}{30}\right) \left(\frac{W}{3}\right)^{0.7} \left(\frac{w}{4}\right)^{0.5} \left(\frac{365-p}{365}\right) \quad (\text{lb/VMT})$$

TABLE 11.2.1-1. TYPICAL SILT CONTENT VALUES OF SURFACE MATERIAL
ON INDUSTRIAL AND RURAL UNPAVED ROADS^a

Industry	Road use or surface material	Plant sites	Test samples	Silt (wgt. %)	
				Range	Mean
Copper smelting	Plant road	1	3	15.9 - 19.1	17.0
Iron and steel production	Plant road	9	20	4.0 - 16.0	8.0
Sand and gravel processing	Plant road	1	3	4.1 - 6.0	4.8
Stone quarrying and processing	Plant road	1	5	10.5 - 15.6	14.1
Taconite mining and processing	Haul road	1	12	3.7 - 9.7	5.8
	Service road	1	8	2.4 - 7.1	4.3
Western surface coal mining	Access road	2	2	4.9 - 5.3	5.1
	Haul road	3	21	2.8 - 18	8.4
	Scraper road	3	10	7.2 - 25	17
	Haul road (freshly graded)	2	5	18 - 29	24
Rural roads	Gravel	1	1	NA	5.0
	Dirt	2	5	5.8 - 68	28.5
	Crushed limestone	2	8	7.7 - 13	9.6

^aReferences 4-11. NA = Not available.

where: E = emission factor
 k = particle size multiplier (dimensionless)
 s = silt content of road surface material (%)
 S = mean vehicle speed, km/hr (mph)
 W = mean vehicle weight, Mg (ton)
 w = mean number of wheels
 p = number of days with at least 0.254 mm
 (0.01 in.) of precipitation per year

The particle size multiplier, k, in the equation varies with aerodynamic particle size range as follows:

Aerodynamic Particle Size Multiplier For Equation

<u><30 um^a</u>	<u><30 um</u>	<u><15 um</u>	<u><10 um</u>	<u><5um</u>	<u><2.5 um</u>
1.0	0.80	0.50	0.36	0.20	0.095

^a Stokes diameter

The number of wet days per year, p, for the geographical area of interest should be determined from local climatic data. Figure 11.2.1-1 gives the geographical distribution of the mean annual number of wet days per year in the United States.

The equation retains the assigned quality rating, if applied within the ranges of source conditions that were tested in developing the equation, as follows:

Ranges Of Source Conditions For Equation

Road silt content (wgt. %)	Mean vehicle weight		Mean vehicle speed		mean no. of wheels
	Mg	ton	km/hr	mph	
4.3 - 20	2.7 - 142	3 - 157	21 - 64	13 - 40	4 - 13

Also, to retain the quality rating of the equation when addressing a specific unpaved road, it is necessary that reliable correction parameter values be determined for the road in question. The field and laboratory procedures for determining road surface silt content are given in Reference 4. In the event that site specific values for correction parameters cannot be obtained, the appropriate mean values from Table 11.2.1-1 may be used, but the quality rating of the equation is reduced to B.

The equation was developed for calculating annual average emissions, and thus, is to be multiplied by annual vehicle distance traveled (VDT). Annual average values for each of the correction parameters are to be substituted for the equation. Worst case emissions, corresponding to dry road conditions, may be calculated by setting p = 0 in the equation (equivalent to dropping the last

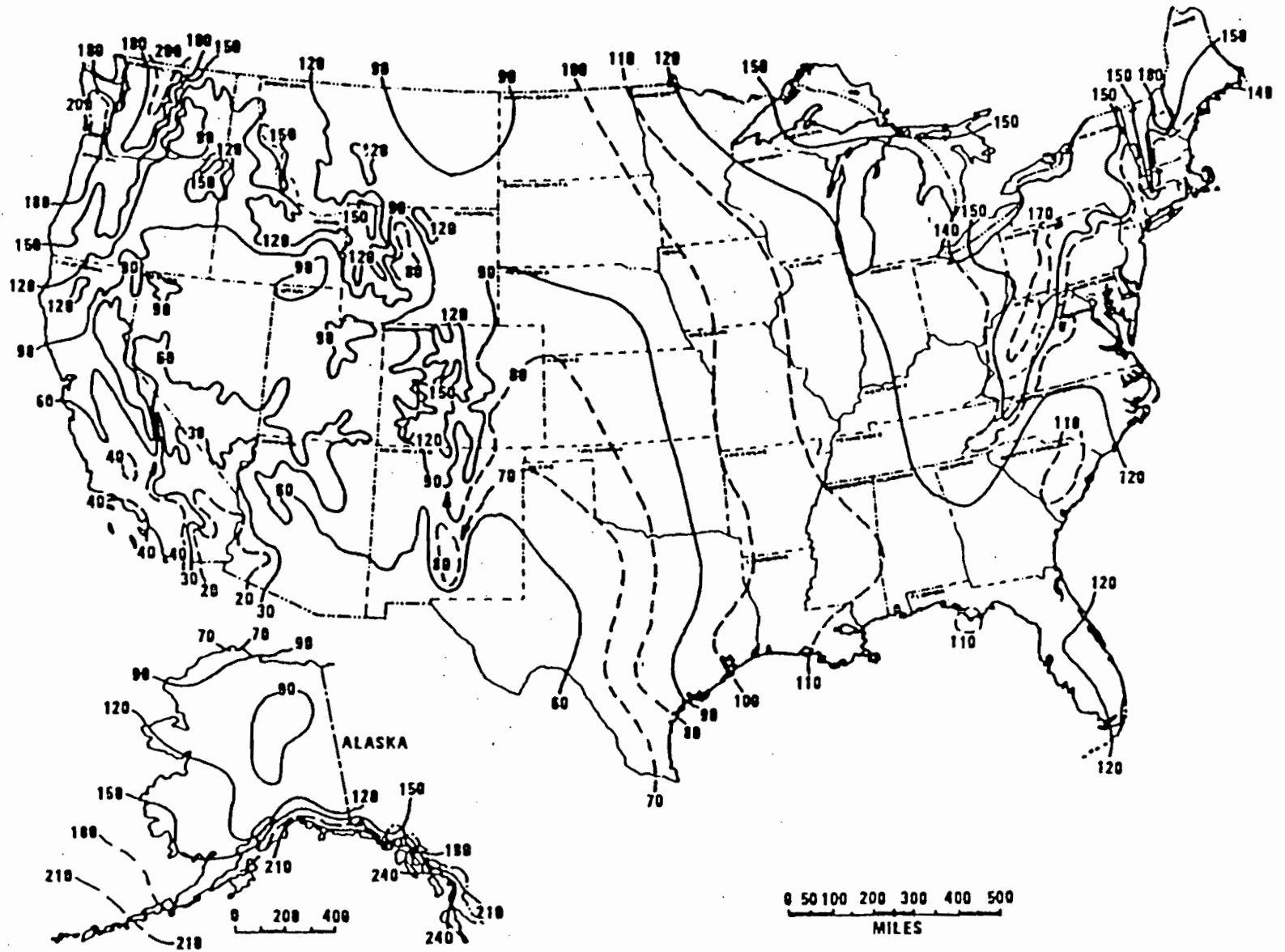


Figure 11.2.1-1. Mean number of days with 0.01 inch or more of precipitation in United States. 10

term from the equation). A separate set of nonclimatic correction parameters and a higher than normal VDT value may also be justified for the worst case average period (usually 24 hours). Similarly, in using the equation to calculate emissions for a 91 day season of the year, replace the term $(365-p)/365$ with the term $(91-p)/91$, and set p equal to the number of wet days in the 91 day period. Also, use appropriate seasonal values for the nonclimatic correction parameters and for VDT.

11.2.1.3 Controls

Common control techniques for unpaved roads are paving, surface treating with penetration chemicals, working into the roadbed of stabilization chemicals, watering, and traffic control regulations. Chemical stabilizers work either by binding the surface material or by enhancing moisture retention. Paving, as a control technique, is often not economically practical. Surface chemical treatment and watering can be accomplished with moderate to low costs, but frequent retreatments are required. Traffic controls, such as speed limits and traffic volume restrictions, provide moderate emission reductions but may be difficult to enforce. The control efficiency obtained by speed reduction can be calculated using the predictive emission factor equation given above.

The control efficiencies achievable by paving can be estimated by comparing emission factors for unpaved and paved road conditions, relative to airborne particle size range of interest. The predictive emission factor equation for paved roads, given in Section 11.2.6, requires estimation of the silt loading on the traveled portion of the paved surface, which in turn depends on whether the pavement is periodically cleaned. Unless curbing is to be installed, the effects of vehicle excursion onto shoulders (berms) also must be taken into account in estimating control efficiency.

The control efficiencies afforded by the periodic use of road stabilization chemicals are much more difficult to estimate. The application parameters which determine control efficiency include dilution ratio, application intensity (mass of diluted chemical per road area) and application frequency. Other factors that affect the performance of chemical stabilizers include vehicle characteristics (e. g., traffic volume, average weight) and road characteristics (e. g., bearing strength).

Besides water, petroleum resin products have historically been the dust suppressants most widely used on industrial unpaved roads. Figure 11.2.1-2 presents a method to estimate average control efficiencies associated with petroleum resins applied to unpaved roads. Several items should be noted:

1. The term "ground inventory" represents the total volume (per unit area) of petroleum resin concentrate (not solution) applied since the start of the dust control season.
2. Because petroleum resin products must be periodically reapplied to unpaved roads, the use of a time-averaged control efficiency value is appropriate. Figure 11.2.1-2 presents control efficiency values averaged over two common application intervals, two weeks and one month. Other application intervals will require interpolation.

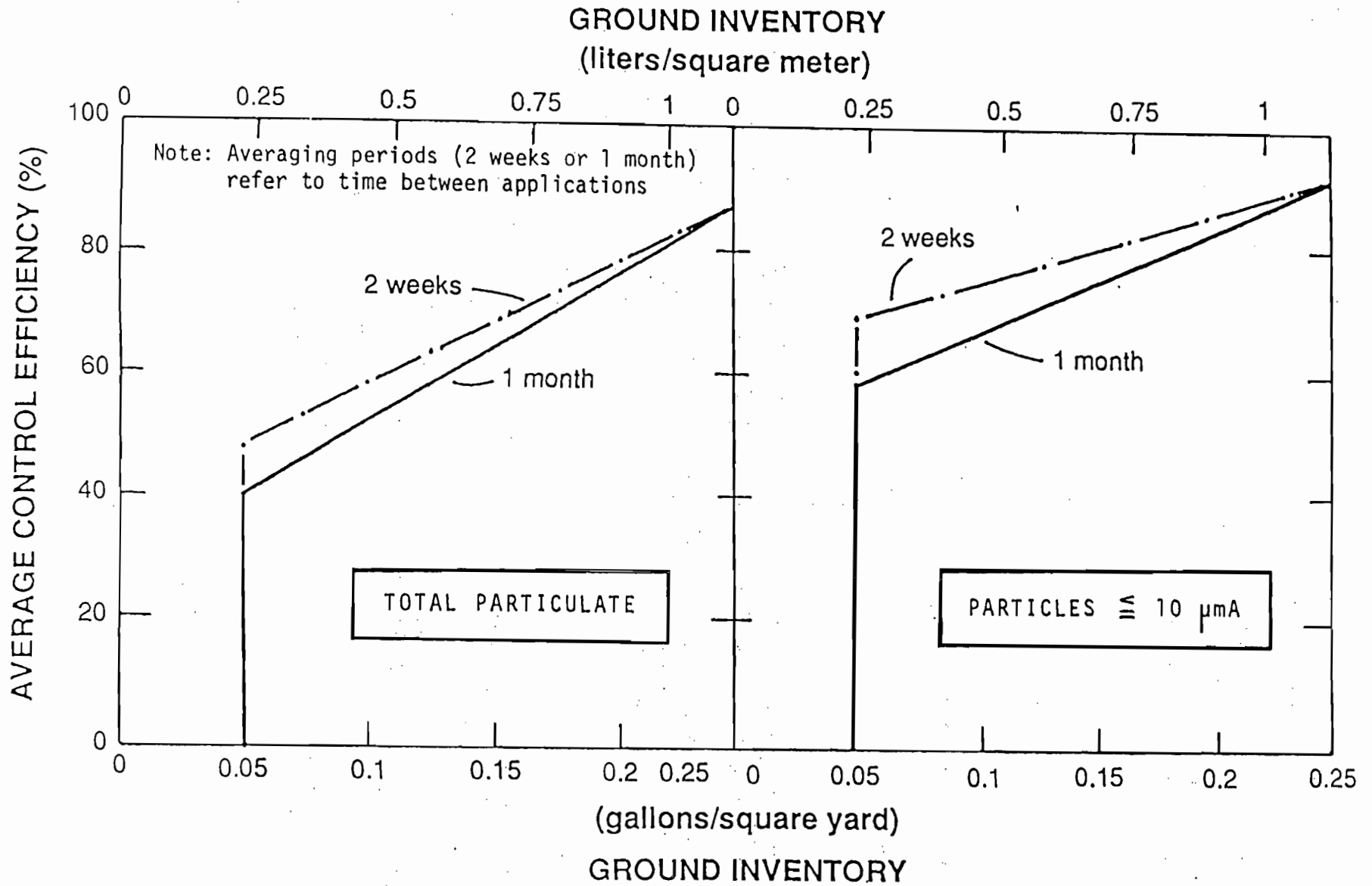


Figure 11.2.1-2. Average control efficiencies over common application intervals.

- Note that zero efficiency is assigned until the ground inventory reaches 0.2 liters per square meter (0.05 gallons per square yard).

As an example of the use of Figure 11.2.1-2, suppose that the equation has been used to estimate an emission factor of 2.0 kilograms per vehicle kilometer traveled for particles equal to or less than 10 microns from a particular road. Also, suppose that, starting on May 1, the road is treated with 1 liter per square meter of a (1 part petroleum resin to 5 parts water) solution on the first of each month until October. Then, the following average controlled emission factors are found:

Period	Ground Inventory (L/m ²)	Average Control Efficiency ^a (%)	Average Controlled Emission Factor (kg/VKT)
May	0.17	0	2.0
June	0.33	62	0.76
July	0.50	68	0.64
August	0.67	74	0.52
September	0.83	80	0.40

^aFrom Figure 11.2.1-2, $\leq 10 \mu\text{m}$. Zero efficiency assigned if ground inventory is less than 0.2 L/m² (0.05 gal/yd²).

Newer dust suppressants have been successful in controlling emissions from unpaved roads. Specific test results for those chemicals, as well as for petroleum resins, are provided in References 14 through 16.

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11.2.3 AGGREGATE HANDLING AND STORAGE PILES

11.2.3.1 General

Inherent in operations that use minerals in aggregate form is the maintenance of outdoor storage piles. Storage piles are usually left uncovered, partially because of the need for frequent material transfer into or out-of storage.

Dust emissions occur at several points in the storage cycle, such as during material loading onto the pile, disturbances by strong wind currents, and loadout from the pile. The movement of trucks and loading equipment in the storage pile area is also a substantial source of dust.

11.2.3.2 Emissions And Correction Parameters

The quantity of dust emissions from aggregate storage operations varies with the volume of aggregate passing through the storage cycle. Also, emissions depend on three parameters of the condition of a particular storage pile: age of the pile, moisture content and proportion of aggregate fines.

When freshly processed aggregate is loaded onto a storage pile, its potential for dust emissions is at a maximum. Fines are easily disaggregated and released to the atmosphere upon exposure to air currents, either from aggregate transfer itself or from high winds. As the aggregate weathers, however, potential for dust emissions is greatly reduced. Moisture causes aggregation and cementation of fines to the surfaces of larger particles. Any significant rainfall soaks the interior of the pile, and the drying process is very slow.

Silt (particles equal to or less than 75 microns in diameter) content is determined by measuring the portion of dry aggregate material that passes through a 200 mesh screen, using ASTM-C-136 method. Table 11.2.3-1 summarizes measured silt and moisture values for industrial aggregate materials.

11.2.3.3 Predictive Emission Factor Equations

Total dust emissions from aggregate storage piles are contributions of several distinct source activities within the storage cycle:

1. Loading of aggregate onto storage piles (batch or continuous drop operations).
2. Equipment traffic in storage area.
3. Wind erosion of pile surfaces and ground areas around piles.
4. Loadout of aggregate for shipment or for return to the process stream (batch or continuous drop operations).

Adding aggregate material to a storage pile or removing it both usually involve dropping the material onto a receiving surface. Truck dumping on the pile or loading out from the pile to a truck with a front end loader are examples of batch drop operations. Adding material to the pile by a conveyor stacker is an example of a continuous drop operation.

TABLE 11.2.3-1. TYPICAL SILT AND MOISTURE CONTENT VALUES
OF MATERIALS AT VARIOUS INDUSTRIES

11.2.3-2

EMISSION FACTORS

Industry	Material	Silt (%)			Moisture (%)		
		No. of test samplers	Range	Mean	No. of test samplers	Range	Mean
Iron and steel production ^a	Pellet ore	10	1.4 - 13	4.9	8	0.64 - 3.5	2.1
	Lump ore	9	2.8 - 19	9.5	6	1.6 - 8.1	5.4
	Coal	7	2 - 7.7	5	6	2.8 - 11	4.8
	Slag	3	3 - 7.3	5.3	3	0.25 - 2.2	0.92
	Flue dust	2	14 - 23	18.0	0	NA	NA
	Coke breeze	1		5.4	1		6.4
	Blended ore	1		15.0	1		6.6
	Sinter	1		0.7	0	NA	NA
	Limestone	1		0.4	0	NA	NA
Stone quarrying and processing ^b	Crushed limestone	2	1.3 - 1.9	1.6	2	0.3 - 1.1	0.7
Taconite mining and processing ^c	Pellets	9	2.2 - 5.4	3.4	7	0.05 - 2.3	0.9
	Tailings	2	NA	11.0	1		0.35
Western surface coal mining ^d	Coal	15	3.4 - 16	6.2	7	2.8 - 20	6.9
	Overburden	15	3.8 - 15	7.7	0	NA	NA
	Exposed ground	3	5.1 - 21	15.0	3	0.8 - 6.4	3.4
Coal fired power generation ^e	Coal	60	0.6 - 4.8	2.2	59	2.7 - 7.4	4.5

^aReferences 2-5. NA = not applicable.

^bReference 1.

^cReference 6.

^dReference 7.

^eReference 8. Values reflect "as received" conditions of a single power plant.

The quantity of particulate emissions generated by either type of drop operation, per ton of material transferred, may be estimated, with a rating of A, using the following empirical expression²:

$$E = k(0.0016) \frac{\left(\frac{U}{2.2}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} \text{ (kg/Mg)}$$

$$E = k(0.0032) \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} \text{ (lb/ton)}$$

where: E = emission factor
 k = particle size multiplier (dimensionless)
 U = mean wind speed, m/s (mph)
 M = material moisture content (%)

The particle size multiplier, k, varies with aerodynamic particle diameter, as shown in Table 11.2.3-2.

TABLE 11.2.3-2. AERODYNAMIC PARTICLE SIZE MULTIPLIER (k)

<u><30 um</u>	<u><15 um</u>	<u><10 um</u>	<u><5 um</u>	<u><2.5 um</u>
0.74	0.48	0.35	0.20	0.11

The equation retains the assigned quality rating if applied within the ranges of source conditions that were tested in developing the equation, as given in Table 11.2.3-3. Note that silt content is included in Table 11.2.3-3, even though silt content does not appear as a correction parameter in the equation. While it is reasonable to expect that silt content and emission factors are interrelated, no significant correlation between the two was found during the derivation of the equation, probably because most tests with high silt contents were conducted under lower winds, and vice versa. It is recommended that estimates from the equation be reduced one quality rating level, if the silt content used in a particular application falls outside the range given in Table 11.2.3-3.

TABLE 11.2.3-3. RANGES OF SOURCE CONDITIONS FOR EQUATION 1

<u>Silt Content</u>	<u>Moisture Content</u>	<u>Wind Speed</u>	
		<u>(m/s)</u>	<u>(mph)</u>
0.44 - 19	0.25 - 4.8	0.6 - 6.7	1.3 - 15

Also, to retain the equation's quality rating when applied to a specific facility, it is necessary that reliable correction parameters be determined for the specific sources of interest. The field and laboratory procedures for aggregate sampling are given in Reference 3. In the event that site specific values for correction parameters cannot be obtained, the appropriate mean values from Table 11.2.3-1 may be used, but, in that case, the quality rating of the equation is reduced by one level.

For emissions from equipment traffic (trucks, front end loaders, dozers, etc.) traveling between or on piles, it is recommended that the equations for vehicle traffic on unpaved surfaces be used (see Section 11.2.1). For vehicle travel between storage piles, the silt value(s) for the areas among the piles (which may differ from the silt values for the stored materials) should be used.

Worst case emissions from storage pile areas occur under dry windy conditions. Worst case emissions from materials handling operations may be calculated by substituting into the equation appropriate values for aggregate material moisture content and for anticipated wind speeds during the worst case averaging period, usually 24 hours. The treatment of dry conditions for vehicle traffic (Section 11.2.1), centering on parameter p, follows the methodology described in Section 11.2.1. Also, a separate set of nonclimatic correction parameters and source extent values corresponding to higher than normal storage pile activity may be justified for the worst case averaging period.

11.2.3.4 Controls

Watering and chemical wetting agents are the principal means for control of aggregate storage pile emissions. Enclosure or covering of inactive piles to reduce wind erosion can also reduce emissions. Watering is useful mainly to reduce emissions from vehicle traffic in the storage pile area. Watering of the storage piles themselves typically has only a very temporary slight effect on total emissions. A much more effective technique is to apply chemical wetting agents for better wetting of fines and longer retention of the moisture film. Continuous chemical treatment of material loaded onto piles, coupled with watering or treatment of roadways, can reduce total particulate emissions from aggregate storage operations by up to 90 percent.⁹

References for Section 11.2.3

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CONTROL EFFICIENCY REFERENCES

TECHNICAL GUIDE FOR ESTIMATING FUGITIVE DUST IMPACTS
FROM COAL HANDLING OPERATIONS

By
George C. Howroyd

September 1984

Work Performed Under Contract No. AC01-80RG10312

Dames & Moore
Atlanta, Georgia

Technical Information Center
Office of Scientific and Technical Information
United States Department of Energy



TABLE 4-9

ESTIMATED DUST CONTROL EFFICIENCIES FOR FUGITIVE DUST EMISSIONS
FROM LIMESTONE HANDLING AND STORAGE OPERATIONS

Page 1 of 2

<u>Activity</u>	<u>Control Method</u>	<u>Estimated Control Efficiencies (%)</u>	<u>References</u>
A. Load-In	- water sprays	75	Bohn, et al. (1978)
		40	EPA (1977b)
	- chemicals	<99	EPA (1977b)
		80-90	Jutze, et al. (1977)
	* - enclosure	70-90	Jutze, et al. (1977)
	- enclosure with chemical wetting	95	Davis, et al. (1981)
	* - partial enclosure with telescopic chute	90	TRW (1982)
	- wind guards	50	Bohn, et al. (1978)
	- stone ladder	80	Bohn, et al. (1978)
	- telescopic chutes	75	Bohn, et al. (1978) Jutze, et al. (1977)
	- stacker spreader	25	Bohn, et al. (1978)
	- micron-sized foam spray	99	Cole & Ayers (1983)
- micron-droplet spray	90	Kretch (1983)	
B. Pile Traffic & Maintenance	- carryover of water/chemical from load-in	60	Davis, et al. (1981)
C. Wind Erosion	- water sprays	50	Bohn, et al. (1978)
	- chemical	70	Bohn, et al. (1978)
	- water/chemical carryover from load-in	80	Davis, et al. (1978)
	- wind breaks/fences	30	Bohn, et al. (1978)
	- vegetative cover	70	Bohn, et al. (1978)
	- partial enclosure - active pile	70	TRW (1982)

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<u>Activity</u>	<u>Control Method</u>	<u>Estimated Control Efficiencies (%)</u>	<u>References</u>
D. Load-Out	- water sprays	40	EPA (1977b)
	- chemicals	<99	EPA (1977b)
	* - <u>water sprays</u>	<u>80</u>	Bohn, et al. (1978)
		50	Jutze, et al. (1977)
	- enclosure with bag filter	99	Bohn, et al. (1978), TRW (1982)
	- enclosure with chemical wetting	99	Davis, et al. (1981)
	- telescopic chute with dust suppressant carryover from storage pile	75	Davis, et al. (1981)
	- stacker/reclaimer	40	Jutze et al. (1977)
	* - <u>under-pile conveyor</u>	<u>80</u>	Jutze et al. (1977)
	- micron-sized foam spray	99	Cole & Ayers (1983)
	- micron droplet spray	90	Kretch (1983)

4-14

WIND EROSION CALCULATIONS

WIND EROSION FROM SLAG PILE

Spreadsheet as of 14:34:03 on 11-22-1996

Input Filename: tslagnew.epc
Inventory area: Tarmac Slag Pile 1
Source ID: Tslag1 Filename: A:\Tslag1.EPC

Emissions estimate year: 1996
Based on wind data year: 1990
Fastest mile filename: miami90.met
System of units: English
Source life (inclusive days of year)

Start day: 1

End day: 346

F=flat area, PC=conical pile, PO=oval pile: PC

Pile height (ft) : 32.5

Pile diameter (ft) : 86

Area (sq ft): 7277.628

Material description: Slag

Percent moisture content: 6

Percent silt content: 5

Threshold friction velocity, U*t, (cm/sec): 102

Roughness height (cm): 0.1

Mode (mm) of size distribution 2.844418# (# denotes calculated value)

Lc value (cf. Fig. 6-3 of reference manual):

Frequency of disturbance information :

Us/Ur = .9 -- subarea # 1 -- 50 % of regime disturbed every 1 day(s)
Us/Ur = .9 -- subarea # 2 -- 50 % of regime disturbed every 1 day(s)
Us/Ur = .6 -- subarea # 1 -- 50 % of regime disturbed every 1 day(s)
Us/Ur = .6 -- subarea # 2 -- 50 % of regime disturbed every 1 day(s)
Us/Ur = .2 -- subarea # 1 -- 50 % of regime disturbed every 1 day(s)
Us/Ur = .2 -- subarea # 2 -- 50 % of regime disturbed every 1 day(s)

Total emissions emitted over the period: 20351.43 g

Threshold velocity = 102 cm/s

Control: Effective windspeed ratio = 1

Us/Ur = .9 Disturbance interval = 1 days

Period	25 - 26	high on	26	1.062787	m/s	23.84973	g emitted
Period	26 - 27	high on	26	1.062787	m/s	23.84973	g emitted
Period	41 - 42	high on	42	1.062787	m/s	23.84973	g emitted
Period	42 - 43	high on	42	1.062787	m/s	23.84973	g emitted
Period	45 - 46	high on	46	1.062787	m/s	23.84973	g emitted
Period	46 - 47	high on	46	1.062787	m/s	23.84973	g emitted
Period	52 - 53	high on	53	1.232833	m/s	161.2095	g emitted
Period	53 - 54	high on	53	1.232833	m/s	161.2095	g emitted
Period	56 - 57	high on	57	1.232833	m/s	161.2095	g emitted
Period	57 - 58	high on	57	1.232833	m/s	161.2095	g emitted
Period	58 - 59	high on	58	1.190322	m/s	120.4915	g emitted
Period	61 - 62	high on	62	1.020276	m/s	.1399041	g emitted
Period	62 - 63	high on	62	1.020276	m/s	.1399041	g emitted
Period	65 - 66	high on	66	1.190322	m/s	120.4915	g emitted
Period	66 - 67	high on	66	1.190322	m/s	120.4915	g emitted
Period	74 - 75	high on	75	1.062787	m/s	23.84973	g emitted
Period	75 - 76	high on	75	1.062787	m/s	23.84973	g emitted
Period	80 - 81	high on	81	1.020276	m/s	.1399041	g emitted
Period	81 - 82	high on	81	1.020276	m/s	.1399041	g emitted
Period	88 - 89	high on	89	1.105299	m/s	51.8116	g emitted
Period	89 - 90	high on	89	1.105299	m/s	51.8116	g emitted
Period	92 - 93	high on	93	1.190322	m/s	120.4915	g emitted
Period	93 - 94	high on	93	1.190322	m/s	120.4915	g emitted

Period 104 - 105	high on 105	1.105299	m/s	51.8116	g emitted
Period 105 - 106	high on 105	1.105299	m/s	51.8116	g emitted
Period 108 - 109	high on 109	1.062787	m/s	23.84973	g emitted
Period 109 - 110	high on 109	1.062787	m/s	23.84973	g emitted
Period 143 - 144	high on 144	1.020276	m/s	.1399041	g emitted
Period 144 - 145	high on 144	1.020276	m/s	.1399041	g emitted
Period 145 - 146	high on 146	1.190322	m/s	120.4915	g emitted
Period 146 - 147	high on 146	1.190322	m/s	120.4915	g emitted
Period 147 - 148	high on 147	1.105299	m/s	51.8116	g emitted
Period 151 - 152	high on 152	1.827994	m/s	1177.726	g emitted
Period 152 - 153	high on 152	1.827994	m/s	1177.726	g emitted
Period 159 - 160	high on 160	1.020276	m/s	.1399041	g emitted
Period 160 - 161	high on 160	1.020276	m/s	.1399041	g emitted
Period 161 - 162	high on 162	1.105299	m/s	51.8116	g emitted
Period 162 - 163	high on 162	1.105299	m/s	51.8116	g emitted
Period 179 - 180	high on 180	1.062787	m/s	23.84973	g emitted
Period 180 - 181	high on 180	1.062787	m/s	23.84973	g emitted
Period 189 - 190	high on 190	1.062787	m/s	23.84973	g emitted
Period 190 - 191	high on 190	1.062787	m/s	23.84973	g emitted
Period 192 - 193	high on 193	1.062787	m/s	23.84973	g emitted
Period 193 - 194	high on 193	1.062787	m/s	23.84973	g emitted
Period 198 - 199	high on 199	1.232833	m/s	161.2095	g emitted
Period 199 - 200	high on 199	1.232833	m/s	161.2095	g emitted
Period 204 - 205	high on 205	1.487902	m/s	494.8102	g emitted
Period 205 - 206	high on 205	1.487902	m/s	494.8102	g emitted
Period 250 - 251	high on 251	1.487902	m/s	494.8102	g emitted
Period 251 - 252	high on 252	1.572925	m/s	640.0269	g emitted
Period 252 - 253	high on 252	1.572925	m/s	640.0269	g emitted
Period 273 - 274	high on 274	1.062787	m/s	23.84973	g emitted
Period 274 - 275	high on 274	1.062787	m/s	23.84973	g emitted
Period 281 - 282	high on 282	1.360368	m/s	308.8757	g emitted
Period 282 - 283	high on 282	1.360368	m/s	308.8757	g emitted
Period 283 - 284	high on 283	1.190322	m/s	120.4915	g emitted
Period 302 - 303	high on 303	1.275344	m/s	206.1794	g emitted
Period 303 - 304	high on 303	1.275344	m/s	206.1794	g emitted
Period 305 - 306	high on 306	1.020276	m/s	.1399041	g emitted
Period 306 - 307	high on 306	1.020276	m/s	.1399041	g emitted

Summary for Us/Ur = .9 Disturbance Interval = 1
8874.609 Total g emitted over 1 - 346

Us/Ur = .9 Disturbance interval = 1 days

Period 25 - 26	high on 26	1.062787	m/s	23.84973	g emitted
Period 26 - 27	high on 26	1.062787	m/s	23.84973	g emitted
Period 41 - 42	high on 42	1.062787	m/s	23.84973	g emitted
Period 42 - 43	high on 42	1.062787	m/s	23.84973	g emitted
Period 45 - 46	high on 46	1.062787	m/s	23.84973	g emitted
Period 46 - 47	high on 46	1.062787	m/s	23.84973	g emitted
Period 52 - 53	high on 53	1.232833	m/s	161.2095	g emitted
Period 53 - 54	high on 53	1.232833	m/s	161.2095	g emitted
Period 56 - 57	high on 57	1.232833	m/s	161.2095	g emitted
Period 57 - 58	high on 57	1.232833	m/s	161.2095	g emitted
Period 58 - 59	high on 58	1.190322	m/s	120.4915	g emitted
Period 61 - 62	high on 62	1.020276	m/s	.1399041	g emitted
Period 62 - 63	high on 62	1.020276	m/s	.1399041	g emitted
Period 65 - 66	high on 66	1.190322	m/s	120.4915	g emitted
Period 66 - 67	high on 66	1.190322	m/s	120.4915	g emitted
Period 74 - 75	high on 75	1.062787	m/s	23.84973	g emitted
Period 75 - 76	high on 75	1.062787	m/s	23.84973	g emitted
Period 80 - 81	high on 81	1.020276	m/s	.1399041	g emitted
Period 81 - 82	high on 81	1.020276	m/s	.1399041	g emitted
Period 88 - 89	high on 89	1.105299	m/s	51.8116	g emitted
Period 89 - 90	high on 89	1.105299	m/s	51.8116	g emitted
Period 92 - 93	high on 93	1.190322	m/s	120.4915	g emitted
Period 93 - 94	high on 93	1.190322	m/s	120.4915	g emitted
Period 104 - 105	high on 105	1.105299	m/s	51.8116	g emitted
Period 105 - 106	high on 105	1.105299	m/s	51.8116	g emitted
Period 108 - 109	high on 109	1.062787	m/s	23.84973	g emitted
Period 109 - 110	high on 109	1.062787	m/s	23.84973	g emitted
Period 143 - 144	high on 144	1.020276	m/s	.1399041	g emitted

Period 144 - 145	high on 144	1.020276	m/s	.1399041	g emitted
Period 145 - 146	high on 146	1.190322	m/s	120.4915	g emitted
Period 146 - 147	high on 146	1.190322	m/s	120.4915	g emitted
Period 147 - 148	high on 147	1.105299	m/s	51.8116	g emitted
Period 151 - 152	high on 152	1.827994	m/s	1177.726	g emitted
Period 152 - 153	high on 152	1.827994	m/s	1177.726	g emitted
Period 159 - 160	high on 160	1.020276	m/s	.1399041	g emitted
Period 160 - 161	high on 160	1.020276	m/s	.1399041	g emitted
Period 161 - 162	high on 162	1.105299	m/s	51.8116	g emitted
Period 162 - 163	high on 162	1.105299	m/s	51.8116	g emitted
Period 179 - 180	high on 180	1.062787	m/s	23.84973	g emitted
Period 180 - 181	high on 180	1.062787	m/s	23.84973	g emitted
Period 189 - 190	high on 190	1.062787	m/s	23.84973	g emitted
Period 190 - 191	high on 190	1.062787	m/s	23.84973	g emitted
Period 192 - 193	high on 193	1.062787	m/s	23.84973	g emitted
Period 193 - 194	high on 193	1.062787	m/s	23.84973	g emitted
Period 198 - 199	high on 199	1.232833	m/s	161.2095	g emitted
Period 199 - 200	high on 199	1.232833	m/s	161.2095	g emitted
Period 204 - 205	high on 205	1.487902	m/s	494.8102	g emitted
Period 205 - 206	high on 205	1.487902	m/s	494.8102	g emitted
Period 250 - 251	high on 251	1.487902	m/s	494.8102	g emitted
Period 251 - 252	high on 252	1.572925	m/s	640.0269	g emitted
Period 252 - 253	high on 252	1.572925	m/s	640.0269	g emitted
Period 273 - 274	high on 274	1.062787	m/s	23.84973	g emitted
Period 274 - 275	high on 274	1.062787	m/s	23.84973	g emitted
Period 281 - 282	high on 282	1.360368	m/s	308.8757	g emitted
Period 282 - 283	high on 282	1.360368	m/s	308.8757	g emitted
Period 283 - 284	high on 283	1.190322	m/s	120.4915	g emitted
Period 302 - 303	high on 303	1.275344	m/s	206.1794	g emitted
Period 303 - 304	high on 303	1.275344	m/s	206.1794	g emitted
Period 305 - 306	high on 306	1.020276	m/s	.1399041	g emitted
Period 306 - 307	high on 306	1.020276	m/s	.1399041	g emitted

Summary for Us/Ur = .9 Disturbance Interval = 1
8874.609 Total g emitted over 1 - 346

Us/Ur = .6 Disturbance interval = 1 days

Period 151 - 152	high on 152	1.218663	m/s	588.6575	g emitted
Period 152 - 153	high on 152	1.218663	m/s	588.6575	g emitted
Period 251 - 252	high on 252	1.048617	m/s	61.89622	g emitted
Period 252 - 253	high on 252	1.048617	m/s	61.89622	g emitted

Summary for Us/Ur = .6 Disturbance Interval = 1
1301.108 Total g emitted over 1 - 346

Us/Ur = .6 Disturbance interval = 1 days

Period 151 - 152	high on 152	1.218663	m/s	588.6575	g emitted
Period 152 - 153	high on 152	1.218663	m/s	588.6575	g emitted
Period 251 - 252	high on 252	1.048617	m/s	61.89622	g emitted
Period 252 - 253	high on 252	1.048617	m/s	61.89622	g emitted

Summary for Us/Ur = .6 Disturbance Interval = 1
1301.108 Total g emitted over 1 - 346

Us/Ur = .2 Disturbance interval = 1 days

Summary for Us/Ur = .2 Disturbance Interval = 1
0 Total g emitted over 1 - 346

Us/Ur = .2 Disturbance interval = 1 days

Summary for Us/Ur = .2 Disturbance Interval = 1
0 Total g emitted over 1 - 346

Summary for entire source: 20351.43 g emitted over period 1 - 346
NOTE: For a variety of reasons given in the user manual, the erosion estimates presented above may be considered as CONSERVATIVELY HIGH. See the

user manual for more information.

EXCERPTS FROM SUBPART UUU BID

Calciners and Dryers in Mineral Industries— Background Information for Proposed Standards

Emission Standards and Engineering Division

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Air and Radiation
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

October 1985

Coating-grade clays are those with all particles smaller than $15\ \mu\text{m}$ (6×10^{-4} in.) and at least 70 percent of the particles less than $2\ \mu\text{m}$ (8×10^{-5} in.). These clays also have 50 percent or more of the particles smaller than $1\ \mu\text{m}$ (4×10^{-5} in.) in size. The extremely fine grades of coating clay currently being produced approach the range of 100 percent minus $2\ \mu\text{m}$ (8×10^{-5} in.).⁸²

3.2.10.4 Calcining. Because kaolin consists primarily of the mineral kaolinite, it is considered to be a fire clay. Low-temperature calcining produces a kaolin used for filler. High-temperature calcining produces a kaolin for use in the refractory industry. Section 3.2.6 (Fire clay) discusses kaolin use as a refractory material. Multiple hearth furnaces are the most common type of calciner; however, flash and rotary calciners are also used. Multiple hearth furnaces require less space and maintenance than flash calciners although they have a longer startup time.

3.2.11 Lightweight Aggregate

3.2.11.1 Background. The lightweight aggregate (LWA) industry encompasses the processing of clay-like materials into a low-density product. Lightweight aggregate is produced by calcining clay, shale, or slate. The raw materials used to produce LWA are chosen for their bloating properties when heated. When these materials are heated to temperatures of about 1000°C (1800°F), they become plastic and begin to flow like a viscous fluid.⁹⁰ As the plastic state is achieved, carbonaceous compounds in the material form gas bubbles, the material begins to expand, and the gas bubbles are trapped in the viscous plastic material. The material is then cooled in the expanded condition to form a porous, solid LWA. Substitutes for the more common raw materials in the production of LWA products are natural pumice and blast furnace slag.

Lightweight aggregate is used principally for the manufacture of structural concrete products such as concrete blocks and prestressed structural units. Concrete made with LWA has about the same strength and approximately two-thirds the weight of concrete made with natural aggregate. Other properties of concrete made with LWA, such as fire resistance and thermal and acoustical insulating qualities, make it

desirable as a building material. Lightweight aggregate is a substitute for more dense, naturally occurring aggregate (granite, limestone) and is used by companies that further process the material into other products. Other applications of LWA include accoustical plaster, roofing granules, highway surfacing, insulating fills, horticulture applications, and running tracks.⁹¹ The end uses of LWA in 1980 were: concrete block (65 percent), structural concrete (25 percent), highway surfacing (6.5 percent), and other uses (3.5 percent).⁹² Fine, medium, and coarse grades of LWA are available, ranging in diameter from dust to 3.8 cm (1.5 in.). Seven companies produce approximately 50 percent of the LWA processed in the United States. Typically, LWA cannot be economically shipped beyond approximately a 480-km (300-mi) radius of the production facility. Local demand for LWA may be greater in areas where natural aggregates are scarce.

The U.S. Bureau of Mines (BOM) categorizes the raw materials used to produce LWA as clays and stone. Clays are classified as kaolin, ball clay, fire clay, bentonite, fuller's earth, and common clay and shale. Approximately 11 percent of the clays mined in the U.S. in 1980 were used for the production of LWA.⁹¹ Crushed slate is the only stone used in LWA production. Approximately 0.05 percent of the crushed stone mined in the U.S. in 1980 was used for the production of LWA.⁹¹ Lightweight aggregate was produced at 34 plants in 24 States in 1981. The BOM estimated that consumption of clay and shale used in the production of LWA was 4.4×10^6 Mg (4.9×10^6 tons) in 1981, compared to 2.15×10^5 Mg (2.4×10^5 tons) of slate and 7.3×10^5 Mg (8.0×10^5 tons) of slag.⁹¹

Two methods are used to produce LWA. The rotary kiln method is used by approximately 88 percent (30 of 34) of the operating plants in the United States. The remaining 12 percent of the operating plants use the traveling-grate method, or process naturally occurring LWA. Because of the energy intensive nature of the traveling-grate process, no future growth in the use of this process for LWA production is anticipated.

3.2.11.2 Process Description.

3.2.11.2.1 General. The operations involved in producing LWA are quarrying or mining, crushing and screening, calcining or sintering, product cooling, and materials handling and storage. Figure 3-27 shows

a diagram of a typical LWA plant. Raw material is usually strip-mined from open fields by earth movers. Cone crushers, jaw crushers, hammer-mills, or pugmills are used to reduce the size of the raw material, which is then passed through screens. Any oversize material that does not pass through the screens initially may be returned to the crushers for secondary crushing. Material passing through the screens (about minus 3.8 cm [1.5 in.] in diameter) is transferred by conveyor belts to feed hoppers for charging to the calciner.

3.2.11.2.2 Rotary calciners. Rotary calciners are fired from the discharge end with fuel oil, natural gas, or coal. As the cost of fuel oil and natural gas increases, the trend is toward the use of pulverized coal. The burner used to fire the calciner is installed in the center of a fixed or movable calciner hood. The pilot flame of the burner is normally fueled by natural gas.

Rotary calciner production capacities range from 230 to 910 Mg (250 to 1,000 tons) per day per calciner.⁹⁰ Lightweight aggregate plants typically have two or three rotary calciners. One manufacturer of rotary calciners states that the smallest rotary calciner considered to be economical for LWA production in the U.S. is one that produces 450 Mg (500 tons) per day and that is approximately 3.4 m (11 ft) in diameter and 50 m (175 ft) long.⁹³

Normal feed sizes range from 2.4 mm (8 mesh) to 33 mm (1.5 in.).⁹⁰ When the clay, shale, or slate is not closely screened, segregation of the various size chunks of raw material occurs as the calciner rotates. This segregation of particles is avoided by some calciner operators who screen the feed material so that a narrow range of particle sizes is fed to the calciner.⁹² The fines are calcined by direct solid-to-solid heat transfer from the calciner walls, and the larger (coarser) particles are calcined by solid-to-gas heat transfer from the hot gas. The intermediate-size particles are protected from the heat by the layers of fine and coarse particles and may not be completely calcined.

3.2.12 Magnesium Compounds

3.2.12.1 Background. Natural brine solutions, such as sea, lake, and wellwaters are the primary source of domestically produced magnesium compounds. Magnesium compounds are also produced from natural magnesite

GENCOR STATIONARY 150 TPH BATCH DRUM

The BATCH DRUM is capable of producing 150 U.S. tons per hour at a discharge temperature of 200 degrees Fahrenheit (200 degrees Fahrenheit heat rise) utilizing a standard type surface mix with uniformly graded virgin aggregates with a maximum of 10% total moisture content in the virgin aggregate feed.

The performance of the BATCH DRUM is based on operation at elevations up to 1000 feet. For elevations above 1000 feet, derate the plant performance by 3% per 1000 feet of elevation. Variations in atmospheric conditions, fuel type, and aggregate gradations may result in a plus or minus 10% variation in this performance.

DRUM AND DRUM DRIVE AND FRAME

The 89 in. diameter x 27 ft. long drum is constructed of 3/8 in. INX 50 and mounted on a one piece frame. Stiff legs are provided for support on the burner end of the drum. The drum rotates on 16 in. diameter x 8-3/4 in. wide heat treated trunnions with shafts mounted on factory aligned adjustable bearing pads.

The drum drive is friction type with four trunnions that are individually driven by 625 TXT torque arm shaft mounted reducers with sheaves, belts, and belt guard and each powered by a 20 HP, 1,800 RPM, ODP electric motor.

FEED HOOD

Feed hood is low feed entrance type, expanded to provide a knockout chamber equipped with high temperature rubber drum seal and access door.

DISCHARGE HOOD

Discharge hood is sweeper plate type with side discharge.

AGGREGATE DRYING ZONE

The aggregate BATCH DRUM inlet spiral flights assure a continuous flow of the virgin aggregate into the abrasion resistant steel Ultra flights. The flights create a continuous veiling of the aggregate across the diameter of the drum allowing the aggregate to be efficiently dried and heated to a predetermined temperature.

COMBUSTION ZONE

The combustion zone is equipped with Ultra insulating Genco spiral and T flights. These flights insulate the drum shell as they heat the aggregate and move it through the combustion zone.

GENCOR 48,000 CFM PORTABLE BAGHOUSE

MODEL NO. N85

The Gencor portable baghouse is the heaviest-built baghouse in the industry and has a rated capacity of 48,000 CFM at 5.67:1 air to cloth ratio. The baghouse is 24 ft. 4 in. long x 14 ft. wide with a travel height of 14 ft. 5 in. and has a total volume of 5,687 cu. ft. There are 648 size 10 ft. bags, with a total cloth area of 8,482 sq. ft.

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The inlet end of the baghouse is equipped with a built-in primary collector. The baghouse frame is constructed using 12 in. x 4 in. x 1/4 in. rectangular tubing, and the sidewalls are reinforced 1/8 in. steel sheet. The main baghouse frame and sidewall sections are continuously welded together in a jig form.

FILTER BAGS

The filter bags are of 14 oz., 100% aramid fiber (also known as nomex or conex) with snap bands sewn into the top of the bag. The cages are made of ten 11 gage vertical galvanized wires. The bottom pan is stamped steel and the rolled flanged top has a built-in venturi section. There is 7 in. spacing between each bag center and 8 in. center-to-center row spacing.

Because of the close spacing of the horizontal wires of the cages, the "sagging" of the bag cloth is eliminated, thus contributing to longer bag life and reduced pressure drop across the baghouse. The wide spacing permits maximum cleaning efficiency and eliminates the possibility of the dust cake bridging between bags.

UPPER/CLEAN AIR SECTION

This section has 9 tube sheets of 3/16 in. steel sheets welded in place. The sidewalls are 1/8 in. steel sheets. The roof section is built of 4 in. x 5.4 lb. "C" channel butt welded together and supported by an inverted steel truss system.

The roof inspection doors are made of 11 gage steel. The door seats are of 1/2 in. x 3 in. EPDM high temperature rubber, glued to the "C" channel. The doors are locked down by an exclusive wedge type door locking mechanism.

The double diaphragm valves are mounted on the outside of the clean air section. The 1-1/2 in. diameter blowpipe nipple is plumbed through the baghouse sidewall and then welded in place. The blowpipe extensions are 1-1/2 in. diameter x 11 ft. 10-1/4 in. pipe that extend across the row of bags. The extensions are bolted to a welded angle iron support.

The wedge type locking system eliminates the problem of hinges becoming rusted.

Even at high operating temperatures, the rubber gasket system provides an airtight seal for the inspection doors.

The pulse jet cleaning action is provided by the double diaphragm pulse valves that provide 100 to 125 psi millisecond airblasts. The compressed air is provided by a 30 HP, 120 ACFM rotary compressor to produce a sharp, crisp bag expansion that quickly breaks the accumulated dust cake from the side of the bag. Less horsepower is required to operate the rotary compressor than conventional piston compressors.

LOWER/HOPPER SECTION

The lower/hopper section has smooth sides with a 60 degree slope and flat welded steel bottom of 1/4 AR support by 3 in. channel.

There are four 20 in. x 35 in. inspection doors with silicone rubber seals, two on each side. The doors have swing-down bottom hinges and are held closed by two screw type locks on each door.

All collected dust is moved to the discharge auger end of the collection hopper by a 2 in. high slat on 26 in. centers bolted to A-22 attachment.

Solid hub chain sprockets are mounted on shafts and turn in roller bearings.

The chain is tensioned by an easily adjustable take-up with indicator gauge.

The collected dust slat conveyor moves approximately 40 ft. per minute across the bottom wear bars and is driven by a gear reducer using a belt drive covered with expanded metal guards and powered by a 5 HP, 1,800 RPM, ODP (440V-220V) electric motor. The large inspection doors provide easy access to the slats and the AS436 chain for easy maintenance and inspection. The 10 in. diameter 3 HP cross auger feeds dust to the center incline 7.5 HP discharge auger.

ARCH DUCT WORK

The arch duct work is a round exhaust duct fabricated from 7 gauge (3/16 in.) steel and has an unrestricted cross sectional opening of 12 sq. ft. The primary high temperature probe is inserted in the arch duct work. Our exclusive double ring, turntable style dust seal eliminates the need for exact alignment of the baghouse and drum for a secure fit. The duct work is secured to the drum knockout box outlet and baghouse inlet elbow by easily operated chain and screw type ratchets. The chain and ratchet hold-down, combined with the hydraulic slope control on the drum, make the changing of the drum slope a simple task.

EXHAUST FAN ASSEMBLY MODEL 445BC

The exhaust fan assembly is a backward slope fan blade design, rated at 48,000 CFM at 14 in. static pressure and air temperature of 300 degrees Fahrenheit at sea level. The fan is mounted on the gooseneck and powered by a 150 HP, 1,800 RPM, ODP electric motor. The fan shaft, bearings, drive, and driven sheaves are oversized to reduce premature wearing of the belts and assure no belt slippage.

The fan outlet is fitted with an opposed blade louver type damper controlled by a 1,500 ft. lb. 812 electromechanical actuator. The louver is automatically opened or closed by AR7, ADP that measures the pressure drop across the burner bulkhead. The opposed blade louver damper, when closed, allows easy starting of the exhaust fan and is automatically opened or closed to maintain the necessary CFM of air to maintain burner efficiency under varying moisture and temperature conditions.

The exhaust stack is fabricated into bolt-together 8 ft. long sections from 11 gauge (1/8 in.) steel. The upper bolt-on section has 4 in. diameter test ports platform with safety railing and is equipped with an access ladder from the roof of the collector. The secondary high temperature sensor is contained in the outlet ductwork. When the exhaust temperature nears the danger level, the burner will be switched off, the exhaust fan will stop, and the exhaust louver damper will close. This safety feature is designed to reduce the possibility of baghouse incineration.

The collector travel dimensions are 60 ft. 2 in. long x 14 ft. wide x 14 ft. 6 in. high with a tandem axle assembly and Budd wheels with 11:00 x 22.5 12-ply minimum tires. The gooseneck is equipped with a weld-on fifth wheel attachment and crank down truck dolly. The weld-on rear bumper has DOT approved taillights and combination turn and brake lights included. The collector is equipped with an air brake booster tank and preplumbed with color coded air lines with "glad hands" and six wire "pigtail" with plug-in type male trailer plug.

BAGHOUSE CONTROLS

The controls include a 16 station pulse card with three pulse rate ranges provided by a photohelic which senses the pressure drop across the house. The two setpoint indicators on the photohelic determine which rate potentiometer controls the time between each bag-cleaning pulse.

The transition between rates is automatic and helps to provide maximum plant efficiency. The controls will be installed in a NEMA 1 enclosure to be mounted by customer indoor. Cable between the control and the baghouse will be provided by Gencor.

GENCOR MODEL TS-100 CONTROL SYSTEM FOR AUTOMATIC CONTROL OF THE BURNER

The control system is supplied in a streamline tabletop model cabinet which can also be wall-mounted and incorporates the following:

- Pushbutton start/stop
- Main burner switch
- Manual/automatic switch
- Manual control switch
- Manual burner control
- Aggregate temperature indicator
- Automatic temperature control
- Gas temperature limit interlock
- Exit gas temperature limit control
- Burner position indicator
- Indicator lights
- Flame safeguards
- LED readout to check system status
- Interconnecting cables

Optional

- Recorder

GENCO ULTRA II-85 OIL/GAS FIRED BURNER

The Genco Ultra II-85 for your drum mix asphalt plant with high turndown and low excess air capability, has been designed to overcome high maintenance costs, energy losses, and high noise levels associated with open air burners. With the combination of total air control and high pressure turbo blower air, the burner achieves complete combustion with minimal combustion volume requirements.

Fuel oil specifications are based on utilizing standard API grades of oils. Reconstituted, blended, waste oils, and other non-API grades of fuel oils will cause variations, improper performance, and very possibly serious hazards with the combustion system covered herein. Use of such nonstandard fuel oils must be cleared through our Engineering Department before you can commence use.

The Genco Ultra II burner is the latest development in combustion technology, and, when using standard commercial grades of fuel, the system will allow you to obtain the full capacity of your plant up to the limit of your exhaust system or other plant limitation.

The Genco Ultra II burner uses an integral, high efficiency, centrifugal axial flow blower design which supplies all the secondary air required for combustion. Incorporated on this unit is a turbo-blower. This high pressure primary air flows through the core of the burner where a conventional fuel oil/gas, high efficiency Astraflame burner head is situated.

Since the burner is sealed into the dryer breeching, very quiet operation is obtained. Inlet attenuator for turbo blower is available if required. Horsepower is 40 and 15.

On oil fired units, a high efficiency internal mix nozzle specially designed for fine atomization and flame shape control. An air purge system cleans the oil gun at shutdown for ease of start-up when utilizing

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heavy oils. Compressed air, to be supplied by others, provides the atomization at low capacity on oil firing. At the nozzle, oil supply pressure of 160 PSIG at 100 SSU viscosity is required.

On LP units, the fuel is fired as a liquid through a central gun assembly. Liquid LP should be supplied to the burner at 40 PSIG over tank pressure.

On natural gas fired units, the Ultra II peripheral gas header is utilized for even distribution and efficient mixing at a low 5 PSIG maximum pressure to the head. Actual pressure required depends on capacity required.

Any of these fuels can be added in the future with the appropriate conversion package.

The fuel train is prepped at the factory on the burner body. Genco modulating drive motors handle the control functions of automatic air and fuel modulation. Automatic valves and drive motors come prewired from the factory, providing a very neat and compact package for quick installation.

Other outstanding features include:

- Adjustable members which allow flame shaping to fill the individual requirements of particular dryers.
- Genco ultraviolet, self-contained flamescanners provided with each unit used with Gencor controls.
- The option to fire two fuels simultaneously with purchase of the dual fuel controller.
- No refractory is required for efficient, low maintenance operation.
- The Genco designed gas/electric ignition system, ensuring positive fuel ignition. A regulator and pressure gage are included (pilot system).
- High turndown ratio capability is standard.
- Fuel safety shutoff valving and sensors to allow system compliance with NFPA 86 standards included on oil and LP fuel trains unless otherwise noted. Gas NFPA fuel train included.*.

*Gas regulator, gas trap, manual shut-off valve not included.

GENCO BURNER FUEL PUMP PALLET MODEL 13

The fuel pump pallet provides continuous circulation of either light or heavy fuels. The pump is pallet mounted, preplumbed with a strainer assembly, and supplied with 1-1/4 in. flexible supply and return lines. The pump is powered by a 3 HP, 1,800 RPM, TEFC electric motor. The pump pallet assures uniform oil pressure and volume that is critical to efficient burner operation.

WIRING

SO type cables will be provided for all equipment supplied by Gencor and will have power and/or control plugs. Power and/or control receptacles will be shipped to the customer for field installation by others.

Table 1. Future Maximum Particulate Emissions From Affected Point Sources

FACILITY ID NUMBER: 0250020

Permittee:

Permit No.: 0250020-001-AC, PSD-FL-236

Tarmac America, Inc., Pennsuco Cement Plant

E.U. ID#	Emission Unit/ Point	Emission Point ID	Control Equip. Type	Maximum Process Rate (TPH)	Air Flow Rate (CFM) ^a	PM/PM10 Emission Factor	PM/PM10 Emissions		
							(lb/hr)	(hr/yr)	(TPY)
EU 1	Slag Dryer	SLAG	Baghouse	125.0	34,100	0.02 gr/acf	5.75	3,120	9.12
EU 2	Clinker Handling System No. 3								
	Conveyor/Bucket Elevator	K-347	Baghouse	125.0	5,000	0.01 gr/acf	0.43	8,760	1.88
	Conveyor/Bucket Elevator	K-447	Baghouse	125.0	5,000	0.01 gr/acf	0.43	8,760	1.88
EU 2	Clinker Storage Silos								
	Clinker Silos 21,22,23,26,27,28	K-633	Baghouse	237.5	1,500	0.01 gr/acf	0.13	8,760	0.56
EU 3	Finish Mill #4								
	Ball mill/mill sweep	F-430	Baghouse	125.0	30,000	0.01 gr/acf	2.57	8,760	11.26
	Belt conveyor/separator/cement	F-432	Baghouse	125.0	17,000	0.01 gr/acf	1.46	8,760	6.38
	Clinker/gypsum conveyors	F-603	Baghouse	125.0	8,000	0.01 gr/acf	0.69	8,760	3.00
	Clinker/gypsum conveyors	F-604	Baghouse	125.0	8,000	0.01 gr/acf	0.69	8,760	3.00
	Clinker/gypsum conveyors	F-605	Baghouse	125.0	4,000	0.01 gr/acf	0.34	8,760	1.50
EU 4	Cement Storage Silos 1-9								
	Cement Silos 7-9	F-512	Baghouse	125.0	10,000	0.01 gr/acf	0.86	8,760	3.75
EU 4	Bulk Cement Loadout Units 1 & 2								
	Railcar/Truck Unit 1	B-110	Baghouse	250.0	3,000	0.01 gr/acf	0.26	8,760	1.13
	Truck Unit 2	B-210	Baghouse	250.0	3,000	0.01 gr/acf	0.26	8,760	1.13
TOTALS							13.87		44.59

Nota a: Airflow reflects dscfm

SECTION II. EMISSION UNIT(S) SPECIFIC CONDITIONS

- c) Bulk Cement (railcar/truck) Loadout Unit 1, Bulk Cement (truck) Loadout Unit 2 and Transfer Pump Hopper (under Silos 10-12), equipped with Baghouses B-110, B-210, and B-323 respectively, exhaust particulate emissions to the interior of enclosed areas. Fugitive emissions shall be contained in this manner so as not to exceed 5% opacity from the vents, doors, etc.
- d) Water sprinklers and wind breaks, enclosures, or covers shall be used to control unconfined PM emissions from the yard.

A DERM license may be required for the slag storage operation.

A.9 Visible emissions from the blast furnace slag processing facility shall not exceed any of the following:

- a) Yard Storage/Handling Fugitive dust shall not be observed leaving the plant area.
- b) Each Clinker/Cement silo: 5% opacity
- c) Each Conveyer: 10% opacity
- d) No. 4 Finish Mill 5% opacity
- e) Bulk Cement Loadout Units 1 & 2: 10% opacity
- f) Slag dryer: 10% opacity

VE limits

Operation Limitations

- A.10 The maximum wet blast furnace slag input rate to the dryer shall not exceed 125 TPH. The permittee shall install equipment or otherwise measure to the Department's satisfaction the process rate of the dryer and shall maintain records of the quantity of slag processed each day.
- A.11 The facility shall not process more than 300,000 tons of blast furnace slag during any calendar year.
- A.13 Only natural gas and low sulfur No. 2 fuel oil shall be burned in the blast furnace slag dryer. The sulfur content of the fuel shall not exceed 0.2 percent. The maximum heat input to the dryer shall not exceed 57.5 MMBtu/hr (approximately 410.6 GPH of oil or 57,000 CFH of gas). The maximum fuel consumption shall not exceed 1,281,000 GPY of oil or 178 MMCFPY of gas.
- A.14 The dryer shall not operate more than 3,120 hours per calendar year. The permittee shall maintain records of the hours of operation for the dryer each day.

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Fold at line over top of envelope to the right of the return address

Also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
 Scott Quass, Enr. Mgr.
 Tarmac America, Inc.
 455 Fairway Dr.
 Deerfield Bch, FL
 33441

4a. Article Number
P 265 659 237

4b. Service Type

- Registered Certified
- Express Mail Insured
- Return Receipt for Merchandise COD

7. Date of Delivery
7-7

5. Received By: (Print Name)
R

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)
X Ruthy L. Quinn

PS Form 3811, December 1994

Domestic Return Receipt

Thank you for using Return Receipt Service.

P 265 659 237

US Postal Service
Receipt for Certified Mail
 No Insurance Coverage Provided.
 Do not use for International Mail (See reverse)

Sent to	
Scott Quass	
Street & Number	
Tarmac America	
Post Office, State, & ZIP Code	
Deerfield Bch, FL	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	
0250020-001AC 7-2-97 P50-FL-236	

PS Form 3800, April 1995

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3. Article Addressed to:

Scott Quas, Enw. Mgr.
Iarnac America
455 Gateway Dr.
Deerfield Bch, FL
33441

4a. Article Number

P 339 251 196

4b. Service Type

- Registered Certified
- Express Mail Insured
- Return Receipt for Merchandise COD

7. Date of Delivery

6/9/97

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)

X *[Signature]*

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1994

Domestic Return Receipt

Thank you for using Return Receipt Service.

P 339 251 196

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail (See reverse)

Sent to	Scott Quas
Street & Number	Iarnac Amer
Post Office, State, & ZIP Code	Deerfield Bch, FL
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	6-6-97
0250020-001-AC PSO-FL-236	

PS Form 3800, April 1995

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3. Article Addressed to:
 Scott Quass, Env. Mgr.
 Tarmac America
 455 Fairway Dr
 Deerfield Bch, FL
 33441

4a. Article Number
 P 265 659 185

4b. Service Type
 Registered Certified
 Express Mail Insured
 Return Receipt for Merchandise COD

7. Date of Delivery
 3-20

5. Received By: (Print Name)
 [Signature]

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)
 [Signature]

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P 265 659 185

US Postal Service
Receipt for Certified Mail
 No Insurance Coverage Provided.
 Do not use for International Mail (See reverse)

Sent to	Scott Quass
Street & Number	Tarmac
Post Office, State, & ZIP Code	Deerfield Bch, FL
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	3/6/97
0252020-001-AC P50-F1-236	

PS Form 3800, April 1995

MEMORANDUM

BUREAU OF
AIR REGULATION

BUREAU OF
AIR REGULATION

JAN 2 1997

RECEIVED

RECEIVED

JAN 2 1997

To: Willard Hanks
DARM

Date: January 2, 1997

From: Ewart Anderson
DERM

Subject: Tarmac America, Inc
Replacement Slag Dryer

We have reviewed the Tarmac America, Inc. permit application, 0250020-001 AC, for constructing a replacement slag dryer at the Pennsuco cement plant in Dade County and offer the following comments.

- The applicant has requested a limit of 3120 hours per year operation for the slag dryer. It is therefore necessary that the operating permit, when issued, include provisos for reporting and recordkeeping.
- The submittal does not reference the federal regulation Subpart F, Standards of Performance for Portland Cement Plants, which in Section 40 CFR 60.62(c) states that, a portland cement plant component facilities other than kilns and clinker coolers must meet an opacity limit of 10%. Please request an explanation as to why an opacity limit of 20% is stated for the slag dryer.
- Tarmac proposes a PM emissions limit of 0.04 gr./dscf as BACT for the slag dryer. Their rationale is that the operation is similar to that of an asphalt plant. We disagree with this reasoning because an asphalt plant's process materials contain more moisture than that of slag, thereby resulting in a lesser potential for PM emissions. We feel that the PM emissions BACT of 0.025 gr./dscf established for the Englehard Calciner/Spray Dryer shown in Table 5-1 of the application is appropriate and that that limit should be the maximum allowed. It should noted that the production rate of the Englehard facility is one fifth of that proposed for the slag dryer.
- Annual fugitive dust emissions estimates are indicated as being 1.775 TPY for PM and 0.625 TPY for PM10. The factors used for these calculations were obtained from the 1988 issue of AP42. In the 1995 issue of AP42, Table 12.5-4 lists the emissions factor of 0.26 lb./ton for batch handling operations utilizing front end loaders to work high silt slag piles. For this project, using the updated factor and given the proposed slag throughput of 300,000 TPY, particulate emissions would exceed 11 TPY.
- It is necessary that the slag be stored on an impervious bed to preclude the leaching of contaminants into the groundwater. The opacity limit for the slag piles should be 10%. Also, a permanent dust suppressant system, such as a water sprinkling system, should be provided. Trafficked areas should be paved.
- The applicant should be advised that additional local permits are required for the fuel tankage and slag storage operations. The DERM Waste Management Division should be contacted.

cc: Al Linero, P.E., DARM ✓
Joe Kahn, P.E., FDEP, West Palm Beach

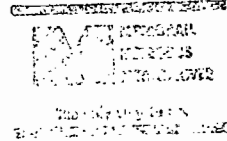


248955

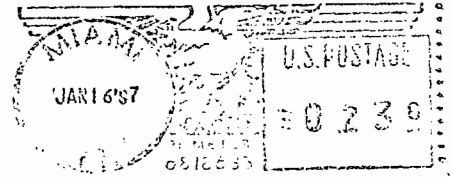


METROPOLITAN DADE COUNTY, FLORIDA
ENVIRONMENTAL RESOURCES MANAGEMENT
AIR QUALITY MANAGEMENT DIVISION
33 SW 2nd AVENUE SUITE 900
MIAMI FLORIDA 33130-1540

161.01-37 9/96



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MR. AL LINERO
CHIEF, AIR SECTION
BUREAU OF AIR REGULATION
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

AUTO 32399



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Mr. Scott Quaas, Enw. Mgr.
Airmac America, Inc.
455 Fairway Dr.
Deerfield Bch, Fl
33441

4a. Article Number

P 265 659 122

4b. Service Type

- Registered Certified
- Express Mail Insured
- Return Receipt for Merchandise COD

7. Date of Delivery

12/31/97

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)

X [Signature]

8. Addressee's Address (Only if requested and fee is paid)

Thank you for using Return Receipt Service.

PS Form 3811, December 1994

Domestic Return Receipt

P 265 659 122


US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail (See reverse)

Sent To		Scott Quaas
Street & Number		AIRMAC America
Post Office, State, & ZIP Code		Deerfield Bch, Fl
Postage	\$	
Certified Fee		
Special Delivery Fee		
Restricted Delivery Fee		
Return Receipt Showing to Whom & Date Delivered		
Return Receipt Showing to Whom, Date, & Addressee's Address		
TOTAL Postage & Fees	\$	
Postmark or Date	12-30-96	
0350020-001-AC		

PS Form 3800, April 1995

Facility: Tarmac America, Inc.
Tarmac Pennsuco
ID: 0250020


DISK 1 of 1
Date: December 9, 1996

 Engineering and Applied
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VMS ✓ 10D96

Facility: Tarmac America, Inc.
Tarmac Pennsuco
ID: 0250020


DISK 1 of 1
Date: December 9, 1996

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Facility: Tarmac America, Inc.
Tarmac Pennsuco
ID: 0250020


DISK 1 of 1
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