



August 11, 1995

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

RECEIVED
AUG 14 1995
Bureau of
Air Regulation

Re: Tarmac Florida, Inc.
Slag Dryer
AC13-273887; PSD-FL-230

Dear Mr. Linero:

This correspondence is in response to the Department's letter dated July 24, 1995, concerning the above referenced air construction permit for Tarmac Florida, Inc. Each of the Department's comments are addressed below, in the order in which they appear in the subject letter.

Comment 1

Tarmac has reviewed the potentially applicable federal new source performance standards (NSPS) contained in 40 CFR 60, and has concluded that none of them apply. 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.

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 cement plant blend material to the cement plant, 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).

KBN ENGINEERING AND APPLIED SCIENCES, INC.

15007A/2
6241 Northwest 23rd Street,
Suite 500
Gainesville, Florida 32653-1500
904-336-5600 FAX 904-336-6603

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 N.W., Suite 450
Washington, D.C. 20036
202-462-1100
FAX 202-462-2270



In regard to the existing finish mill, 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 Tarmac cement plant.

Subpart Kb - Volatile Organic Liquid Storage Vessels

Tarmac will be constructing a 10,000 gallon fuel oil storage tank (Note: the application stated a 7,000 gal tank; this has been revised to a 10,000 gal 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.

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 μ m 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.

Another aspect of this NSPS is that the applicability date is April 23, 1986. The proposed dryer was constructed well before this date (i.e., 1972). Therefore, NSPS would be triggered under Subpart UUU only if an increase in emissions occurs (on a lb/hr basis) due to the modification. The previous use of this dryer was for the drying of asphaltic concrete. Asphaltic concrete is typically dried to 2 to 3 percent moisture, whereas the slag will be dried to approximately 5 percent moisture. Although the particle size of the slag is expected to be smaller than asphaltic concrete, considering the above factors and the baghouse control, no increase in particulate matter (PM) emissions would be expected from the dryer in switching from asphaltic concrete to slag drying. Additionally, the dryer was capable of accommodating the slag prior to April, 1986. No modifications to the dryer are needed in order to process the slag material.

Considering the above aspects, it is concluded that Subpart UUU does not apply to the proposed Tarmac slag dryer.

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. Portions of this 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 UUU does not apply to the proposed Tarmac slag dryer.

Comment 2

Tarmac will employ reasonable precautions to prevent fugitive dust emissions in regards to the slag drying operation. Because Tarmac believes that fugitive dust will not be a problem with the operation, no new control systems will be implemented initially. However, watering will be performed as necessary to minimize dust emissions. 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 wind.

Comment 3



The expected particle size analysis of the dried slag is presented below:

<u>Particle size</u>	<u>Percent less than</u>
0.75 inches (19.0 mm)	100.00
0.50 inches (12.5 mm)	99.18
0.375 inches (9.5 mm)	98.72
0.19 inches (4.75 mm)	95.77
0.094 inches (2.36 mm)	85.32

Comment 4

Since 0.05% sulfur No. 2 fuel oil has become available, Tarmac could theoretically use this fuel. However, there is no regulatory requirement to use such fuel. The application stated that Tarmac will use No. 2 fuel oil with a maximum of 0.2% sulfur. Tarmac is amending this request to utilize No. 2 fuel oil with up to 0.5% sulfur. The resulting SO₂ emissions, shown in the revised application pages attached, are 39.6 TPY, which is still below the PSD significant emission rate of 40 TPY. Therefore, this change does not trigger PSD review.

Comment 5

Copies of the requested permits are attached.

Comment 6

Low NO_x burners are not being used on the dryer. The dryer is not being modified from its original design in 1972. Low NO_x burners were not employed at that time. However, there is no known requirement to use low NO_x burners, since the modification is not subject to PSD for NO_x emissions.

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

Sincerely,



David A. Buff, P.E.
Florida P. E. #19011

SEAL

DB/mk

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

REVISED PAGES OF PERMIT APPLICATION

Segment Description and Rate Information: Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode): Process Heaters	
2. Source Classification Code (SCC): 30590001	
3. SCC Units: 1000 gallons burned	
4. Maximum Hourly Rate: 0.3714	5. Maximum Annual Rate: 1,114
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: 0.5	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: 140	
10. Segment Comment: No. 2 fuel oil burning in slag dryer.	

E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

Pollutant Potential/Estimated Emissions: Pollutant 3 of 5

1. Pollutant Emitted:	SO₂	
2. Total Percent Efficiency of Control:	%	
3. Primary Control Device Code:		
4. Secondary Control Device Code:		
5. Potential Emissions:	26.4 lbs/hr	39.6 tons/yr
6. Synthetically Limited?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
7. Range of Estimated Fugitive/Other Emissions:		
	[] 1 [] 2 [] 3 _____ to _____ tons/yr	
8. Emission Factor:	142 (S) lb/1000 gal	
	Reference: AP-42	
9. Emissions Method Code (check one):		
	[] 1 [] 2 <input checked="" type="checkbox"/> 3 [] 4 [] 5	
10. Calculation of Emissions:		
	371.4 gal/hr x 142(0.5) lb/1000 gal = 26.37 lb/hr; 26.37 lb/hr x 3000 hr/yr x ton/2000 lb = 39.55 TPY	
11. Pollutant Potential/Estimated Emissions Comment:		

15007Y/F1
08/11/95

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

Parameter		No. 2 Fuel Oil	
OPERATING DATA			
Operating Time (hr/yr)		3,000	
Heat Input Rate (MMBtu/hr)		52.0	
Fuel Oil Use (gal/hr) ^a		371.4	
Fuel Oil Use (gal/yr)		1,114,286	
Maximum Sulfur Content (Wt %)		0.2	
Pollutant	Emission Factor ^b	Maximum Emissions	
		lb/hr	TPY
EMISSIONS DATA			
SO ₂ :	142*S lb/Mgal ^c	26.37	39.55
NO _x :	20 lb/Mgal	7.43	11.14
CO:	5 lb/Mgal	1.86	2.79
NM VOC:	0.2 lb/Mgal	0.074	0.11
Sulfuric Acid Mist:	0.1225 lb/Mgal	0.046	0.068
Lead-Total:	8.9E-06 lb/MMBtu	4.63E-04	6.94E-04
Mercury:	3.0E-06 lb/MMBtu	1.56E-04	2.34E-04
Beryllium:	2.5E-06 lb/MMBtu	1.30E-04	1.95E-04

Note: NA = not applicable.

^a Based on 140,000 Btu/gal for 0.5% S oil.

^b Emission factors based on AP-42.

^c "S" denotes the weight % sulfur in fuel oil; max sulfur content = 0.5%

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

Regulated Pollutant	Cement Production Facilities				(A+B-C+D) Net Increase In Emissions (TPY)	PSD Significant Emission Rate (TPY)	PSD Review Applies?
	(A) Slag Dryer Emissions (TPY)	(B) Fugitives From Slag Handling (TPY)	(C) Current Actuals (TPY)	(D) Future Maximums (TPY)			
Particulate matter (TSP)	6.15	7.96	9.64	31.72	36.2	25	Yes
Particulate matter (PM10)	6.15	2.79	9.64	31.72	31.0	15	Yes
Sulfur dioxide	39.60	--	--	--	39.6	40	No
Nitrogen oxides	11.14	--	--	--	11.1	40	No
Carbon monoxide	2.79	--	--	--	2.8	100	No
Volatile organic compounds	0.11	--	--	--	0.11	40	No
Sulfuric acid mist	0.068	--	--	--	0.07	7	No
Total reduced sulfur	--	--	--	--	--	10	No
Lead	0.0007	--	--	--	0.0007	0.6	No
Mercury	0.0002	--	--	--	0.0002	0.1	No
Beryllium	0.0002	--	--	--	0.0002	0.0004	No
Fluorides	--	--	--	--	--	3	No
Asbestos	--	--	--	--	--	0.007	No
Vinyl Chloride	--	--	--	--	--	1	No

PERMIT AC13-234568



Lawton Chiles
Governor

NOV 18 1993

Florida Department of Environmental Protection

RECEIVED
NOV 22 1993

Southeast District
P.O. Box 15425
West Palm Beach, Florida 33416

TECHNICAL SERVICES
Virginia B. Wetherell
Secretary

NOTICE OF PERMIT ISSUANCE

CERTIFIED MAIL

In the Matter of an Application
for Permit by:

Mr. Scott Quaas, Environmental Manager /
455 Fairway Drive /
Deerfield Beach, Florida 33441 /

DEP File No. AC 13-234568
Dade County

Enclosed is Permit Number AC 13-234568 to modify an existing air pollution source issued pursuant to Section 403.087, Florida Statutes.

Any party to this Order (permit) has the right to seek judicial review of the permit 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 Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399; 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 days from the date this Notice is filed with the Clerk of the Department.

Executed in West Palm Beach, Florida.

MESW/nk/ms

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Mary E. S. Williams
Director of District Management

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT ISSUANCE and all copies were mailed by the close of business on NOV 18 1993 to the listed persons.

Clerk Stamp

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

Mary L. Skinner (Clerk) NOV 18 1993 (Date)

cc: Dade County Environmental Resources Management



Lawton Chiles
Governor

Florida Department of Environmental Protection

Southeast District
P.O. Box 15425
West Palm Beach, Florida 33416

Virginia B. Wetherell
Secretary

PERMITTEE:

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

I.D. NUMBER: 50/DAD/13/0617

PERMIT/CERTIFICATION NUMBER: AC 13-234568

DATE OF ISSUE: NOV 18 1993

EXPIRATION DATE: October 12, 1994

COUNTY: Dade

LATITUDE/LONGITUDE: 25°52'30"N/80°22'30"W

UTM: Zone 17; 562.8 Km. E; 2861.7 Km. N

PROJECT: Tarmac Florida, Inc.

Nonmetallic Mineral Processing

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule 17-210, 296 and 297 and 17-4, and in conformance with all existing regulations of the Florida Department of Environmental Protection. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

MODIFY: Existing equipment in the aggregate plant. The facility consists of crushing, screening and conveying operation, storage bins, and rail and truck loadout operations. The modified facility is expected to emit maximum annual emission of 35.4 TPY of PM and 14 TPY of PM₁₀ based on AP-42 emission factors calculated and submitted with application to this office (thereby avoiding PSD Review).

IN ACCORDANCE WITH: Application to Modify existing aggregate plant received July 16, 1993, and Public Notice of Intent issued October 12, 1993, and published October 25, 1993, in the Miami Daily Business Review. (none are attached)

LOCATED AT: 11000 N.W. 121 Way, Medley, Dade County, Florida.

TO SERVE: Nonmetallic mineral processing plant (SIC # 3295).

SUBJECT TO: General Conditions 1-14 and Specific Conditions 1-10.

NOV 18 1993

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. 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.
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, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any 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 of 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.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement 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.
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.
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.
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 reasonable times, access to the premises where the permitted activity is located or conducted to:
 - (a) Have access to and copy any 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.
8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in the permit, the permittee shall immediately notify and provide the Department with the following information:
 - (a) A description of and cause of noncompliance; and

NOV -1 8 1995

GENERAL CONDITIONS:

- (b) The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. 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.

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 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

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.

11. This permit is transferable only upon Department approval in accordance with Rule 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. 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 for 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:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

14. 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 the 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 submitted or corrected promptly.

PERMITTEE:

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

I.D. NUMBER: 50/DAD/13/0617

PERMIT/CERTIFICATION NUMBER: AC 13-234568

DATE OF ISSUE: NOV 18 1993

EXPIRATION DATE: October 12, 1994

SPECIFIC CONDITIONS:

1. Permit Requirements

Application for a permit to operate, along with the initial compliance test report, shall be submitted to the Department at least sixty (60) days prior to the expiration of this permit, but in no case more than fourteen (14) days after commencement of operation. In no case shall a source be operated without an appropriate operating permit. The Certification of Completion of Construction, DEP Form 17-1.202(3) may be submitted in lieu of the application for a permit to operate.

2. Emission Limiting Standards

- a) In accordance with 40 CFR 60.670 (Subpart 000), Pursuant to Florida Administrative Code Rule 17-296.800 - No owner or operator shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any fugitive emissions which exhibit greater than 10% opacity (15% for crushers).
- b) In accordance with Florida Administrative Code Rule 17-296.310(2)(a) - Visible Emissions from primary crusher, storage piles and all other nonaffected transfer points shall be limited to 20% opacity.

3. The compliance test report shall include results of tests by the following methods:

<u>Source/Emission Point</u>	<u>Pollutant</u>	<u>Test Method</u>
Affected facilities (conveying, screening, storage bins, rail and truck loadout operations)	Visible Emissions	DEP Method 9
Affected facilities - crushers	Visible Emissions	DEP Method 9
Primary crusher, storage piles and all other nonaffected transfer points	Visible Emissions	DEP Method 9

The compliance test report shall be submitted to the Department in accordance with Florida Administrative Code (F.A.C.) Rule 17-297.570.

- 4. The overall throughput capacity of the facility shall not exceed 2,000 tons per hour (40,000 tons/day).
- 5. Testing of emissions should be conducted using the fuel and/or process input which are expected to result in the highest emissions and at 90 - 100% of the rated capacity of the source. If a source is not tested at 90 - 100% of rated capacity, the source may not be operated above 110% of the test load until a new test is conducted. The source is only allowed to operate for 15 days above the 110% rate to conduct the new test to regain the rated capacity in the permit.

PERMITTEE:

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

I.D. NUMBER: 50/DAD/13/0617

PERMIT/CERTIFICATION NUMBER: AC 13-234568

DATE OF ISSUE: NOV 18 1993

EXPIRATION DATE: October 12, 1994

SPECIFIC CONDITIONS:

6. The Department and Dade County Environmental Resources Management shall be notified of expected test dates at least fifteen (15) days prior to compliance testing.
7. Copies of all reports, tests, notifications or other submittals required by this permit shall be submitted to both the Department of Environmental Protection, Southeast District Office and Dade County Environmental Resources Management.
8. The operation of the sources covered by this permit shall be limited to 20 hours/day, 7 days/week and 52 weeks/year.
9. Unconfined emissions of particulate shall be controlled by the following means:
 - a) Paved parking and trafficked areas shall be maintained and kept free of particulate matter build-up.
 - b) Sprinkling with water shall be used as necessary on paved areas and stockpiles.
10. The Permittee shall be aware of and operate under the attached "General Permit Conditions Numbers 1 thru 14". General Permit Conditions are binding upon the Permittee and enforceable pursuant to Chapter 403 of the Florida Statutes.

Executed in West Palm Beach, Florida.

MESW:nk/ms

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

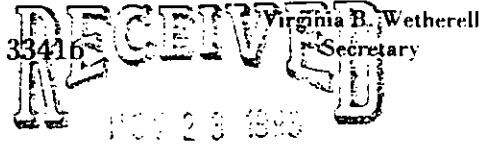

Mary E.S. Williams
Director of District Management



Lawton Chiles
Governor

Florida Department of Environmental Protection

Southeast District
P.O. Box 15425
West Palm Beach, Florida 33416



November 22, 1993

TECHNICAL SERVICES

Mr. Albert Townsend, Director of Technical Services
Tarmac Florida, Inc.
455 Fairway Drive
Deerfield Beach, Florida 33441

AC 13-234568
Tarmac Florida, Inc.
Nonmetallic Mineral Processing

Dear Mr. Townsend:

Per our telephone conversation today, we are changing Specific Condition Number 4

FROM:

4. The overall throughput capacity of the facility shall not exceed 2,000 tons per hour (40,000 tons/day).

TO:

4. The overall throughput capacity of the facility shall not exceed 1,213,333 tons per month (14,560,000 tons/yr.)

This letter must be attached to the original permit and becomes part of that permit.

NK/ms

Sincerely,

A handwritten signature in cursive script that reads "Nick Kadivar".

Nick Kadivar
Air Permitting Engineer



Department of Environmental Protection

Lawton Chiles
Governor

Southeast District
P.O. Box 15425
West Palm Beach, Florida 33416

Virginia B. Wetherell
Secretary

OCT 11 1994

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RECEIVED
OCT 12 1994

TECHNICAL SERVICES

Mr. Scott Quaas
Tarmac FL, Inc.
455 Fairway Drive
Deerfield Beach, FL 33441

Dade County
AP - Tarmac FL, Inc.

Re: Extension of Expiration Date, Permit Number AC 13-234568

Dear Mr. Quaas:

Your Pennsuco Aggregate Plant located at 11000 NW 121st Way, Medley, Florida will require a Florida Title V operation permit as it subject to NSPS i.e., 40 CFR 60, Subpart 000 - Nonmetallic Mineral Processing Plants. In order to comply in a timely manner, you will need to apply for the said permit on or before July 2, 1995. This letter is to extend the expiration of your existing permit, AC 13-234568, to September 2, 1995, at "no cost" to you. All other conditions of your permit will remain the same.

This letter must be attached to the original permit and becomes part of that permit.

This letter constitutes final agency action unless a person substantially affected by this action requests an administrative hearing pursuant to Section 120.57, Florida Statutes. The petition must be filed within fourteen (14) days from receipt of this letter. The petition must comply with the requirements of Florida Administrative Code Rule 28-5.201 and be filed pursuant to Rule 17-103.155(1) in the Office of General Counsel of the Department of Environmental Protection at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions which are not filed in accordance with the above provisions will not be accepted by the Department. If a formal proceeding pursuant to Section 120.57(1) is requested, at such formal hearing all parties shall have an opportunity to respond, to present evidence and argument on all issues involved, to conduct cross-examination of witnesses and submit rebuttal evidence, to submit proposed findings of facts and orders, to file exceptions to any order or hearing officer's recommended order, and to be represented by counsel. If an informal proceeding is requested, the agency will, in accordance with its rules of procedure, give affected persons or parties or their counsel an opportunity, at a convenient time and place, to present to the agency or hearing officer written or oral evidence in opposition to the agency's action or refusal to act, or a written statement challenging the grounds upon which the agency has chosen to justify its action or inaction, pursuant to Section 120.57(2), Florida Statutes. The hearing process is designed to formulate agency action. Accordingly, the Department's final action as a result of a hearing may be different from the position taken by it in this stage. Therefore any person who may wish to contest the

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

Mr. Scott Quaas
Tarmac FL, Inc.

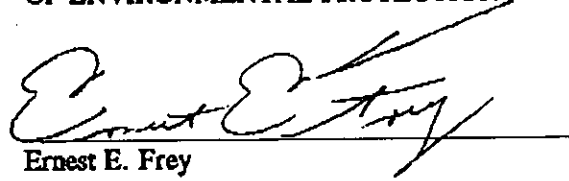
Dade County
AP - Tarmac FL, Inc.

Page 2

OCT 11 1994

Department's ultimate permitting decision must petition for hearing within the fourteen day period described above. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request a hearing under Section 120.57, Florida Statutes.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



Ernest E. Frey
Acting Director of District Management

EEF:hhs

cc: Dade County Environmental Resources Management

CERTIFICATE OF SERVICE

This is to certify that this EXTENSION OF EXPIRATION DATE and all copies were mailed before the close of business on OCT 11 1994 to the listed persons.

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


Clerk

OCT 11 1994
Date

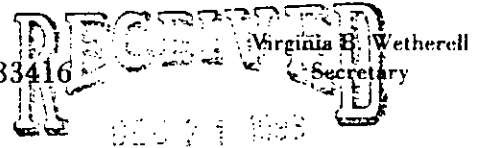
PERMIT AO13-238048



Lawton Chiles
Governor

Florida Department of Environmental Protection

Southeast District
P.O. Box 15425
West Palm Beach, Florida 33416



TECHNICAL SERVICES

PERMITTEE:

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

I.D. NUMBER: 50/DAD/13/0020

PERMIT/CERTIFICATION NUMBER: AO 13-238048*

DATE OF ISSUE: DEC 17 1993

EXPIRATION DATE: November 15, 1998

COUNTY: Dade

LATITUDE/LONGITUDE: 25°52'30"N/80°22'30"W

UTM: Zone 17; 562.8 Km. E; 2861.7 Km. N

PROJECT: Tarmac Florida, Inc.

Portland Cement Manufacturer

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-210, 296 and 297, and in conformance with all existing regulations of the Florida Department of Environmental Protection. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

OPERATE: A portland cement manufacturing plant consisting of the following air pollution sources:

- Coal handling system with a 13 ton/hr. throughput capacity consisting of:

Dump hopper controlled by a baghouse (G-509) emitting particulate 33 feet above ground level (A.G.L.).

Screening tower controlled by baghouse (G-521) emitting particulate 38 feet A.G.L.

Coal mill feed bin controlled by baghouse (G-527) emitting particulate 120 feet A.G.L.

Bowl mill controlled by baghouses (G-576, G-578, G-580, G-582) emitting particulate through a common stack 117 feet A.G.L. System includes a cyclone used for coal transfer to the pulverized coal bin.

- Kiln 1 with a 40.5 (dry) ton/hr. input capacity controlled by a double chambered electrostatic precipitator (E.S.P.) emitting pollutants 200 ft. A.G.L. **

- Cooler 1 with 25.0 ton/hr. throughput capacity vented to a multiclone and controlled by a double chambered E.S.P. emitting pollutants 86 feet A.G.L. **

- Kiln 2 with 40.5 (dry) ton/hr. input capacity controlled by a double chambered E.S.P. emitting pollutants 200 feet A.G.L. **

PERMITTEE:
Mr. Scott Quaas, Environmental Manager
Tarmac Florida, Inc.
Deerfield Beach, Florida 33441

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OPERATE: (continued)

- Cooler 2 with a 25.0 ton/hr. throughput capacity vented to a multiclone and controlled by a double chambered E.S.P. emitting pollutants 86 feet A.G.L. **
- Kiln 3 with a 142 (dry) ton/hr. input capacity vented to a dropout box and controlled by a double chambered E.S.P. emitting pollutants 200 feet A.G.L. ***
- Cooler 3 with an 87.5 ton/hr. throughput capacity vented to a dropout box and controlled by a 2184 bag (228,000 cfm) baghouse emitting pollutants 100 feet A.G.L. Baghouse also controls emissions from the parallel clinker drag conveyors. ***
- A clinker handling and storage system (for Kiln Systems 1 and 2) consisting of:
 - Duplicate bucket elevator/silo distribution drag conveyor operations and clinker silos 1, 2, 4, 5, 11 and 12. Each of the two elevator/conveyor operations and the common silos are controlled by a baghouse (K-147 for one configuration, K-247 for the other) emitting particulate 147 feet A.G.L. Neither elevator/conveyor operation is used simultaneously.
- A clinker handling and storage system (for Kiln System 3) consisting of:
 - Duplicate bucket elevator/silo distribution drag conveyor operations and clinker silos 1 and 17. Each of the elevator/conveyor operations and the common silos are controlled by a baghouse (K-347 for one configuration, K-447 for the other) emitting particulate 160 feet A.G.L. Neither elevator/conveyor operation is used simultaneously.
 - Clinker silos 4 and 18 controlled by baghouse (K-521) emitting particulate 130 feet A.G.L.
 - Clinker silos 11, 19, and 20 controlled by baghouse (K-522) emitting particulate 130 feet A.G.L.
 - Clinker silos 21, 22, 23, 26, 27, and 28 controlled by baghouse (K-633) emitting particulate 130 feet A.G.L.
- Finish mill system 1 with a 25 ton/hr. capacity consisting of two in-line ball mills, clinker/gypsum conveyor, bucket elevator, airslide, separator and transfer line to cement pump (to storage). All of these are controlled by baghouse (F-130) emitting particulate 106 feet A.G.L.
- Finish mill system 2 with a 25 ton/hr. capacity consisting of finish mill 2, clinker/gypsum conveyor, bucket elevator, airslide, separator and transfer line to cement pump (to storage). All of these are controlled by baghouse (F-230) emitting particulate 106 feet A.G.L.
- Finish mill system 3 with an 83.5 ton/hr. capacity consisting of finish mill 3, clinker/gypsum conveyor system controlled by baghouses (F-313 and F-330), a bucket elevator and airslide controlled by a baghouse (F-332), a separator and transfer line to the cement pump (to storage) controlled by a baghouse (F-330). The particulates are emitted 110 feet A.G.L.

PERMITTEE:
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OPERATE: (continued)

- Finish mill system 4 with a capacity of 113 ton/hr. consisting of finish mill 4, a mill sweep controlled by a baghouse (F-430), a clinker/gypsum conveyor system controlled by 4 baghouses (F-603, F-604, F-605) and a general purpose baghouse (F-432), a bucket elevator and airslide controlled by the general purpose baghouse (F-432), a bucket elevator and airslide controlled by the general purpose baghouse (F-432), a separator and a transfer line to two cement pumps (to storage) controlled by a general purpose baghouse (F-432). The particulates are emitted at an average height of 72 feet A.G.L.
- Cement storage silos 1-9 serving finish mill systems 1, 2, 3 and 4 controlled by baghouses (F-522 for silos 1-6 and F-512 for silos 7-9) emitting particulate 200 feet A.G.L.
- Cement storage silos 10-12 serving finish mill system 4 controlled by baghouses (F-513, F-514 and F-515 respectively) emitting particulate 200 feet A.G.L.
- Bulk cement (truck) loadout unit 3 (cement from silos 10-12) consisting of dual loadout bucket elevators each controlled by a baghouse. (B-372 for one, B-374 for the other) emitting particulate 12 feet A.G.L.; airslide; vibrating screen; truck loadout bin; and telescopic truck loadout spout/hoist. The latter equipment is controlled by baghouse (B-382) emitting particulate 86 feet A.G.L.
- A packhouse with two baggers (for cement silos 3 and 5 for one, 7-9 for the other) controlled by a common baghouse (B-621) emitting particulate 40 feet A.G.L.
- Bulk cement (railcar/truck) loadout unit 1 (uses cement from silos 1-6 and 8) controlled by baghouse (B-110) emitting particulate to exterior of loadout unit 1 building.
- Bulk cement (truck) loadout unit 2 (uses cement from silos 7-9) controlled by baghouse (B-210) emitting particulate to exterior of loadout unit 2 building.

Non-point Sources

- Cement hopper (transfers cement from silos 10-12 to 6 and 8) controlled by baghouse (B-323) emitting particulate to enclosed basement of cement silos 10-12.

IN ACCORDANCE WITH: Application for renewal of permit to Operate Air Pollution Sources received September 20, 1993; Applications for Renewal of Permit to Operate Air Pollution Sources received November 15, 1988, and Applications to Operate Air Pollution Sources dated April 28, 1983, addressing: coal handling (revised September 23, 1983), clinker handling/storage, finish mill systems 1 and 2, cement storage silos 1-9 and packhouse. (none are attached)

- Certificates of Completion of Construction dated September 28, 1982, submitted in conjunction with Application to construct Air Pollution Sources dated June 14, 1979, (supplemented by letters dated August 2, 1979, and September 10, 1979, addressing: cement storage silos 10-12 and bulk cement (truck) loadout units 1, 2, and 3.
- Applications for Renewal dated May 6 and 31, 1983, (as modified/supplemented September 23, 1983) based on Application to Operate Air Pollution Sources dated March 1, 1971 (as modified by letter dated June 5, 1978) addressing: kiln and cooler systems 1 and 2.

PERMITTEE:
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Tarmac Florida, Inc.
Deerfield Beach, Florida 33441

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IN ACCORDANCE WITH: (continued)

- Applications for Renewal dated May 6 and 31, 1983 (as modified/supplemented September 23, 1983) based on Application to Construct Air Pollution Sources dated September 26, 1972) as modified July 18, 1973, and September 23, 1983) and July 2, 1973, addressing: kiln and cooler system 3. Certificate of Completion of Construction dated April 29, 1985. Method of Operation as specified by letter dated October 4, 1985; Application to Construct Air Pollution Sources dated February 8, 1980, further information supplied by letters dated May 22, 1980, and June 23, 1982, and request for extension dated March 30, 1982.
- Application for Renewal dated October 3, 1984, based on Applications to Construct Air Pollution Sources dated July 11, 1972, addressing: finish mill system 3.
- Certification of Completion of Construction dated December 10, 1982, based on Application to Construct Air Pollution Sources dated June 1, 1979, and letters dated June 14, 1979, August 2, 1979, December 14, 1982, and February 23, 1983, addressing: finish mill system 4.
- Best Available Control Technology (BACT) determinations signed October 15, 1979, for cement silos 10-12 and bulk cement (truck) loadout unit 3, and April 8, 1980, for coal handling, and coal final firing (as modified January 21, 1985, and February 12, 1985).

Non-point information provided April 28, 1978. (none are attached)

LOCATED AT: 11000 Northwest 121 Way, Medley, Dade County, Florida.

TO SERVE: A wet process cement manufacturer (SIC # 3241).

SUBJECT TO: General Conditions 1-14 and Specific Conditions 1-13.

* This permit is a renewal of AO 13-157297 issued February 2, 1989.

** Kiln Systems 1 and 2 contain a common dust insufflation system which can return captured particulate to the kiln firing hoods. The dust handling equipment for the insufflation system includes a surge bin (for each kiln precipitator) and a common dust bin controlled by baghouse (K-181) emitting particulate 103 feet A.G.L.

*** Kiln System 3 contains a dust insufflation system which can return captured particulate to the kiln firing hood. The dust handling equipment for the insufflation system includes a scoop bin and a dust bin for the kiln precipitator controlled by baghouses (K-383 and K-396 respectively) emitting particulate 100 feet A.G.L. Four new gas sampling ports located in the same plane and elevation as previous location, 45° from the original ports were installed.

PERMITTEE:
Mr. Scott Quaas, Environmental Manager
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Deerfield Beach, Florida 33441

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DATE OF ISSUE: DEC 17 1993
EXPIRATION DATE: November 15, 1998

SPECIFIC CONDITIONS:

1. Compliance testing shall be conducted for the sources covered by this permit annually (prior to December 31 of each year) in accordance with the methods specified below.

2. Emission limiting standards are as follows:

Coal handling:

- a) Particulate shall not exceed 0.01 gr/dscf (April 8, 1980 BACT).
- b) Visible emissions shall not exceed 5 percent opacity (April 8, 1980 BACT).

Kilns and Coolers 1 and 2:

- a) Particulate shall not exceed the process weight rate table allowable (F.A.C. Rules 17-296.407(1) and 17-296.310(1)). Insufflated material may be included in kiln process weights.
- b) Visible emissions shall not exceed 20 percent opacity (F.A.C. Rule 17-296.310(2)(a)).

Kiln 3:

- a) Particulate shall not exceed 0.3 lb./ton of dry kiln feed (F.A.C. Rule 17-296.407(2)(a) and 17-296.800) (Standards of Performance for New Stationary Sources (NSPS)). Insufflated material may be included in kiln process weights.
- b) Visible emissions shall not equal or exceed 20 percent opacity (F.A.C. Rule 17-296.310(2)(a)).
- c) In accordance with the Department BACT Determination Modifications January 21, 1985, for 400 lb. SO₂/hr. maximum emission rate, and at operating rates less than maximum, 4.6 lb. SO₂/ton of clinker produced.

Cooler 3:

- a) Particulate shall not exceed 0.1 lb./ton of dry kiln feed (F.A.C. Rules 17-296.407(2)(b) and F.A.C. Rule 17-296.800/NSPS).

Insufflation systems:

k-181; k-383 + k-392

- a) Visible emissions shall not equal or exceed 20 percent opacity (F.A.C. Rule 17-296.310(2)(a)).

Clinker storage (silos 21-23 and 26-28):

By: k-633

- a) Visible emissions shall not exceed 5 percent opacity (October 15, 1979 BACT)

PERMITTEE:
 Mr. Scott Quaas, Environmental Manager
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 Deerfield Beach, Florida 33441

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SPECIFIC CONDITIONS:

2. (continued)

Clinker handling/storage (silos 1, 2, 4, 5, ¹¹12) and 17-20):

a) Visible emissions shall not equal or exceed 20 percent opacity (F.A.C. Rule 17-296.310(2)(a)).

Finish mill systems 1, 2, and 3:

a) Particulate shall not exceed the process weight rate table allowable (F.A.C. Rule 17-296.310(2)(a)).

Finish mill system 4:

a) Particulate shall not exceed the process weight rate table allowable (F.A.C. Rule 17-296.310(2)(a)).

b) Visible emissions shall not exceed 5 percent opacity (October 15, 1979 BACT).

Cement storage silos 1-9 and packhouse:

a) Visible emissions shall not exceed 20 percent opacity (F.A.C. Rule 17-296.310(2)(a)).

Cement storage silos 10-12 and bulk cement loadout unit 3:

a) Visible emissions shall not exceed 5 percent opacity (October 15, 1979 BACT).

Bulk cement loadout units 1 and 2:

a) Visible emissions shall not equal or exceed 10 percent opacity (F.A.C. Rule 17-296.800/NSPS).

3. Compliance test methods (continued):

<u>Source/Emission Point</u>	<u>Pollutant</u>	<u>Test Method</u>
Coal handling/G-509, G-521, G-527, G-576, G-578, G-580 & G-582	Particulate Visible Emissions	EPA Method 5 * EPA Method 9 **
Kiln 1, Cooler 1, Kiln 2, Cooler 2 & Cooler 3	Particulate Visible Emissions	EPA Method 5 ** EPA Method 9
Kiln 3	SO ₂ Particulate Visible Emissions	EPA Method 6 EPA Method 5 EPA Method 9
[Insufflation system] K-181, Clinker handling & storage system/ K-633, K-147, K-247, K-347, K-447, K-521, & K-522	Visible Emissions Visible Emissions	EPA Method 9 EPA Method 9

PERMITTEE:
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SPECIFIC CONDITIONS:

3. (continued)

<u>Source/Emission Point</u>	<u>Pollutant</u>	<u>Test Method</u>
Finish mill systems 1, 2, 3, & 4 F-130 & F-230	Particulate Visible Emissions	EPA Method 5 * EPA Method 9
Cement storage silos, packhouse & bulk cement loadout units 1, 2, & 3 (F-511), (F-512-N.), (F-512-S.), (F-513), (F-514), (F-515), (B-621), (B-382), (B-372), & (B-374)	Visible Emissions	EPA Method 9

* Visible emissions testing demonstrating opacity does not exceed 5 percent opacity (by EPA Method 9) may be submitted in lieu of particulate testing.

** EPA Method 17 may be used for Kilns and Coolers 1 and 2.

The compliance test report shall be submitted to the Department in accordance with Florida Administrative Code (F.A.C.) Rule 17-297.570.

- Emissions testing is required to be conducted as soon as practical but no later than thirty (30) days after reactivation of any source which did not operate the previous calendar year.
- Testing of emissions should be conducted using the fuel and/or process input which are expected to result in the highest emissions and at 90 - 100% of the rated capacity of the source. If a source is not tested at 90 - 100% of rated capacity, the source may not be operated above 110% of the test load until a new test is conducted. The source is only allowed to operate for 15 days above the 110% rate to conduct the new test to regain the rated capacity in the permit.
- The Department and the Dade County Environmental Resources Management shall be notified of expected test dates at least fifteen (15) days prior to compliance testing.
- On or before March 1 of each calendar year, a completed DEP Form 17-210.900(4) , Annual Operations Report Form for Air Emissions Sources shall be submitted to the Department.
- Fuel used in Kilns 1 and 2 shall be limited to natural gas and No. 6 fuel oil except that operation with other fuels is allowed under a valid construction permit for debugging and testing equipment. Kiln 3 shall be limited to low sulfur (< 2.5%) coal, natural gas, No. 6 fuel oil and used oil fuel meeting EPA specifications for used oil fuel. For used oil fuel, the amount of used oil fuel generated on site shall be kept in a log on the premises. Samples shall be drawn on a semi-annual basis with the analyses by EPA Recommended Analytical procedures for used oil fuel for lead, arsenic, cadmium, chromium, total halogens and flashpoint. Analyses by ASTM methods, or other methods with prior DEP-SEFD approval shall be performed on each sample for sulfur, ash, BTU content and PCB's. The results of the analyses (on the laboratory's letterhead) shall be submitted to the DEP-SEFD no later than 30 days after the analyses. The unused portion of the used oil fuel sample shall be retained for six months following the submittal of the analyses in case further testing is required. All records, reports and data collected shall be maintained as specified in General Condition 13, Part B.

PERMITTEE:
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SPECIFIC CONDITIONS:

9. Copies of all reports, tests, notifications or other submittals required by this permit shall be submitted to both the Department of Environmental Protection, Southeast District Office, and Dade County Environmental Resources Management.
10. Unconfined emissions of particulate shall be controlled by the following means:
 - a) Paved parking and trafficked areas shall be well maintained and kept free of particulate matter build-up.
 - b) Sprinkling when necessary shall be used for unpaved areas and in conjunction with vacuum type sweeper(s) for paved areas. Sweeper(s) shall be maintained and operated such that visible emissions do not exceed 5 percent opacity by EPA Method 9. *from the sweeper*
 - 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 area. Fugitive emissions shall be contained in this manner so as not to exceed 5 percent opacity. *from vents, doors, etc.*
11. Proof of compliance with the permit shall be the kiln daily operating log, the SO_x/NO_x monitor's strip charts and compliance test data. The day, time, type of fuel, fuel feed rate (TPH), sulfur content of the fuel, kiln feed rate (TPH), sulfur content of the kiln feed, oxygen content of the flue gas and the clinker production rate shall be recorded for each kiln. The time period that each kiln operated will also be recorded in the operating log. The logs shall be maintained on the premises for viewing during subsequent compliance inspections and shall be kept for a minimum of two (2) years.
12. Permittee will continue the use of the SO₂ and NO_x monitor to measure the concentrations of SO₂ and NO_x in the stack for Kiln Number 3. The measured concentrations, as demonstrated by the SO₂/NO_x strip chart recording, shall not be used to determine compliance with applicable emission limitations. However, whenever the strip chart recording indicates a SO₂ concentration greater than 350 ppm or a NO_x concentration more than 500 ppm, the permittee shall notify the Department by telephone. The Department may then determine whether a stack test will be necessary to confirm the status of Kiln Number 3 emissions for the parameter exceeding the above stated thresholds. The permittee shall note on the daily log whether or not threshold values were exceeded. If exceeded, the time the Department was notified shall be noted.

In addition, the permittee will continue to discharge to waste the dust from fields five and six of the electrostatic precipitator for Kiln Number 3, which represents the conditions existing during the stack test of April 28, 1987, during which compliance with the state and federal SO₂ and NO_x emission limitations was demonstrated. The permittee shall verify on the kiln daily log that the dust collected in the hoppers for fields five and six is discharged to the "Dust Waste Bin".

PERMITTEE:
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Deerfield Beach, Florida 33441

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DATE OF ISSUE: DEC 17 1993
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SPECIFIC CONDITIONS:

13. The Permittee shall be aware of and operate under the attached "General Permit Conditions Numbers 1 thru 14". General Permit Conditions are binding upon the Permittee and enforceable pursuant to Chapter 403 of the Florida Statutes.

Executed in West Palm Beach, Florida.

MESW/nk/ms

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

J. Goldman

for Mary E.S. Williams
Director of District Management

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 μm (6×10^{-4} in.) and at least 70 percent of the particles less than 2 μm (8×10^{-5} in.). These clays also have 50 percent or more of the particles smaller than 1 μm (4×10^{-5} in.) in size. The extremely fine grades of coating clay currently being produced approach the range of 100 percent minus 2 μm (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



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

July 24, 1995

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Albert W. Townsend
Director, Environmental/Real Estate
Tarmac America, Inc.
455 Fairway Drive
Deerfield Beach, FL 33441

Dear Mr. Townsend:

Re: Tarmac, File No. AC 13-273887/PSD-FL-230

The Department has made a preliminary review of your application for a permit to construct a blast furnace slag processing facility at the Pennsuco Cement Plant in Medley, Dade County, Florida. Additional information is needed before this application can be processed. Please provide the information requested below.

1. The proposed slag processing facility may be subject to at least one of the new source performance standards; 40 CFR 60, Subpart 000, Subpart UUU, or Subpart F. Also, the fuel storage tank may be subject to 40 CFR 60, Subpart Kb. Please address the applicability of these regulations to the proposed project.
2. Expand on the reasonable precautions to be used to minimize unconfined emissions of particulate matter from the slag after it leaves the dryer. Specifically address the storage and handling of the dried slag in the yard, loading the slag into the conveyor system, and the conveyors/drop points of the conveyors.
3. What size is the slag reduced to in the grinders?
4. Particulate matter formed during the combustion of fuel oil is a function of the sulfur content of the oil. Can Tarmac use No. 2 fuel oil with 0.05 percent sulfur?
5. Please provide a copy of permit Nos. AC 13-234568 and AO 13-238048.
6. Will low NO_x burners be used in the dryer?

The Department will resume processing your application after receipt of the requested information. If you have any questions on this matter, please write to me or call Willard Hanks at (904) 488-1344.

Sincerely,



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

AL/WH/s

cc: Stephanie Brooks, SFD
Ewart Anderson, DERM
Jewell Harper, EPA
John Bunyak, NPS
David Buff, KBN

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<p>3. Article Addressed to:</p> <p>Albert W. Townsend Tarmac America, Inc 455 Fairway Dr. Deerfield Bch, FL 33441</p>	<p>4a. Article Number</p> <p>2392 979 063</p> <p>4b. Service Type</p> <p><input type="checkbox"/> Registered <input type="checkbox"/> Insured</p> <p><input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD</p> <p><input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise</p> <p>7. Date of Delivery</p> <p>7-31-95</p>
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P50-F1-230		



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

July 12, 1995

Ms. Jewell A. Harper, Chief
Air Enforcement Branch
U.S. EPA, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30308

RE: Tarmac Florida, Inc.
Pennsuco Cement Plant/Slag Dryer
Dade County, PSD-FL-230

Dear Ms. Harper:

Enclosed for your review and comment is the above referenced PSD application. Please forward your comments to the Department's Bureau of Air Regulation as soon as possible. The Bureau's FAX number is (904)922-6979.

If you have any questions, please contact Willard Hanks or Cleve Holladay at (904)488-1344 or write to me at the above address.

Sincerely,

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

CHF/pa

Enclosures

cc: W. Hanks



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

July 12, 1995

Mr. John Bunyak, Chief
Policy, Planning and Permit Review Branch
National Park Service-Air Quality Division
P. O. Box 25287
Denver, Colorado 80225

RE: Tarmac Florida, Inc.
Pennsuco Cement Plant/Slag Dryer
Dade County, PSD-FL-230

Dear Mr. Bunyak:

Enclosed for your review and comment is the above referenced PSD application. Please forward your comments to the Department's Bureau of Air Regulation as soon as possible. The Bureau's FAX number is (904)922-6979.

If you have any questions, please contact Willard Hanks or Cleve Holladay at (904)488-1344 or write to me at the above address.

Sincerely,

Patricia G. Adams
She. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/pa

Enclosures

cc: W. Hanks