Florida Department of Environmental Regulation
Twin Towers Office Bldg. ● 2600 Blair Stone Road ● Tallahassee, Florida 32399-2400
Lawton Chiles, Governor
Carol M. Browner, Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

Scott Quaas, Environmental Specialist
Tarmac Florida, Inc.
P. O. Box 2998
Hialeah, Florida 33012

February 26, 1991

Enclosed is construction permit No. AC 13-169901, PSD-FL-142 to convert kiln No. 2 to coal firing at Tarmac, Inc. in Medley, Dade County, Florida. This permit is issued pursuant to Section 403, Florida Statutes.

Any party to this 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 32399-2400; 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 permit is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

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

Copy furnished to:

I. Goldman, SE District
D. Buff, P.E.
M. Armentrout, EPA
E. Anderson, DCDERM

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of buisness on 2-27-91.

FILING AND ACKNOWLEDGEMENT FILED, on this date, pursuant to §120.52(9), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Lynn Dober
Clerk

2-27-91
Date

FINAL DETERMINATION

The Technical Evaluation and Preliminary Determination for the permit to convert kiln No. 2 to coal firing at Tarmac, Inc. in Medley, Dade County, Florida, was distributed on March 29, 1990. The Notice of Intent to Issue was published in The Miami Herald on August 7, 1990. Copies of the evaluation were available for public inspection at the Department's Tallahassee and West Palm Beach offices.

Comments from the U.S. Environmental Protection Agency (EPA), the National Park Service (NPS), and the Dade County Department of Environmental Resources Management (DCDERM) were submitted on the Department's Intent to Issue the permit.

The EPA commented that the permit must include an emission limit and test method for CO and PM_{10}, and specific measures for controlling fugitive emissions from the storage of coal. These changes are included in the final permit.

The NPS took exception to the applicant's proposal of setting final emission limits after performance testing has been completed, arguing that this approach is inconsistent with today's "top down" BACT policy. Considering that the EPA did not take exception to this, the Department decided to agree to consider upward adjustments of the emission limits if warranted based on extensive testing to be carried out by the applicant over a period of one year. The NPS also pointed out that the applicant's air quality analysis may not have included increment consuming sources located outside of Dade County which may impact the Everglades National Park. The Department again reviewed the application and verified that the emissions inventory used in the modeling analysis did include sources located in Broward as well as Dade County. The NPS also expressed concern about the potential of the applicant's proposed source to contribute to the regional haze problem, citing published reports that such large sources can cause marked reductions in visibility, primarily as a result of sulfates and organics. The Department believes that the emission limits in the final permit will not result in future reduced visibility for the Everglades National Park, and especially since the allowable Class I SO_2 increment is virtually consumed by this source thus precluding further impact.

The DCDERM stated that the applicant has not adequately demonstrated that Kilns 2 and 3 are substantially different justifying higher emission limits for Kiln 2. They feel that data for Kiln 3 can be used as a basis for the BACT determination for Kiln 2. The Department believes that the final permit conditions satisfy the concerns expressed by the DCDERM.

On June 19, 1990, a petition was filed by Tarmac for an administrative hearing to review the BACT Determination and proposed emission limits. The issues contested in the petition were later resolved between the parties without the hearing. A final order containing modified permit conditions was filed on December 7, 1990. The final action of the Department will be to issue construction permit AC 13-169901, PSD-FL-142 as modified by the final order and incorporating the changes required by EPA.

Florida Department of Environmental Regulation
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400
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PERMITTEE:
Tarmac Florida, Inc.
P. O. Box 2998
Hialeah, Florida 33012

Permit Number: AC 13-169901
PSD-FL-142
Expiration Date: June 30, 1992
County: Dade
Latitude/Longitude: 25°52'30"N
80°22'30"W
Project: Kiln No. 2 Coal Conversion

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-2 and 17-4. 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:

For the conversion of kiln No. 2 to coal firing. The project will be located at the permittee's existing facility in Medley, Dade County, Florida. The UTM coordinates are Zone 17, 562.8 km East and 2861.7 km North.

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

Attachments are listed below:

1. Application to construct received September 5, 1989.
2. DER's letter of incompleteness dated October 4, 1989.
3. EPA's letter dated October 18, 1989.
4. KBN's response (to incompleteness letter) dated November 13, 1989.
5. Dade County DERM's letter dated November 17, 1989.
6. EPA's letter dated December 13, 1989.
7. KBN's letter dated December 21, 1989.
8. KBN's letter dated January 15, 1990.
9. KBN's letter dated January 30, 1990.
10. EPA's letter dated March 20, 1990.
11. EPA's letter dated April 13, 1990.
12. Dade County DERM's letter dated April 30, 1990.
13. NPS's letter dated May 30, 1990.

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 403.161, 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.

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), Florida Statutes, 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.

GENERAL CONDITIONS:

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 a reasonable time, 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 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.

GENERAL CONDITIONS:

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 403.73 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.

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 Florida Administrative Code Rules 17-4.120 and 17-30.300, 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.

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

13. This permit also constitutes a Determination of Best Available Control Technology (BACT) and Determination of Prevention of Significant Deterioration (PSD).

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.

GENERAL CONDITIONS:

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 dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

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.

SPECIFIC CONDITIONS:

1. The construction and operation of the subject modification of kiln No. 2 shall be in accordance with the capacities and specifications stated in the application.

2. The maximum clinker production rate of kiln No. 2 shall not exceed 25 tons per hour and 197,100 tons per year. Kiln No. 2 shall operate only on coal firing for up to 7,884 hours per year at a maximum firing rate of 162.5 MMBtu per hour. The coal used for firing kiln No. 2 shall have a maximum sulfur content of 2.0 percent by weight, with the rolling 30-day average sulfur content not exceeding 1.75 percent by weight.

3. Sulfur dioxide emissions from kiln No. 2 shall not exceed 7.8 lbs/ton of clinker produced, 195.0 lbs/hr, 768.7 tons/yr.

SPECIFIC CONDITIONS:

4. Sulfuric acid mist emissions from kiln No. 2 shall not exceed 0.23 lb/ton of clinker produced, 5.86 lbs/hr, 23.06 tons/yr.

5. Nitrogen oxides emissions from kiln No. 2 shall not exceed 4.55 lbs/ton of clinker produced, 113.8 lbs/hr, 448.4 tons/yr.

6. Carbon monoxide emissions from kiln No. 2 shall not exceed 346 lbs/hr, 1363.9 tons/yr.

7. VOC emissions from kiln No. 2 shall not exceed 28.8 lbs/hr, 113.5 tons/yr.

8. Particulate matter emissions from kiln No. 2 shall not exceed 14.40 lbs/hr, 56.76 tons/yr.

9. PM_{10} emissions from kiln No. 2 shall not exceed 12.24 lbs/hr, 48.25 tons/yr. Compliance for PM_{10} shall be determined by applying a factor of 0.85 to the measured particulate matter emissions.

10. All reasonable precautions that apply under F.A.C. Rule 17-2.610(3) shall be implemented to limit unconfined emissions of particulate matter from any activity associated with this project. Adequate watering of the coal pile area shall be conducted whenever visible emissions occur in that area. The frequency of watering shall be no more than every half hour.

11. Initial and annual compliance tests shall be conducted using the following test methods:

EPA Method 5 for particulate matter
EPA Method 7 for nitrogen oxides
EPA Method 8 for sulfur dioxide and acid mist
EPA Method 25 for VOC
EPA Method 10 for carbon monoxide

12. Tarmac shall conduct a series of compliance tests for SO_2, H_2SO_4 mist, and NO_x emissions every two months for up to one year to allow representative sampling during different times of the year. The tests shall be performed in accordance with the compliance test methods specified in this permit. In the event that this series of tests results in SO_2 emissions in the range of 195 to 275 lbs/hr (up to 11 lbs/ton clinker, 1,084.1 TPY), NO_x emissions in the range of 113.8 to 169.3 lbs/hr (up to 6.77 lbs/ton clinker, 667.2 TPY), or H_2SO_4 mist emissions in the range

SPECIFIC CONDITIONS:

of 5.86 to 8.25 lbs/hr (up to 0.33 lbs/ton clinker, 32.52 TPY), the Department, if requested by the permittee, shall re-evaluate BACT and consider upward adjustments of the emission limitations for the indicated constituents based on available data. During this testing and evaluation period, the permittee shall make reasonable efforts to limit air emissions, and the Department shall not initiate enforcement proceedings. Any upward adjustment of emission limitations pursuant to this paragraph shall be the subject of public notice in a local newspaper pursuant to Department rules. The Department's determination based on the data produced under this paragraph shall be a point of entry for purposes of Section 120.57, Florida Statutes.

13. The compliance tests shall be conducted within 30 days after operation on coal begins. The Department's Southeast District office and the Dade County Department of Environmental Resources Management (DCDERM) shall be notified in writing at least 15 days prior to source testing and at least 5 days prior to initial startup. Written reports of the tests shall be submitted to those offices within 45 days of test completion.

14. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit (F.A.C. Rule 17-4.090).

15. An application for an operation permit must be submitted to the Department's Southeast District office and the DCDERM at least 90 days prior to the expiration date of this construction permit or within 45 days after completion of compliance testing, whichever occurs first. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rule 17-4.220).

Issued this 25 day
of February, 1991

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Carol M. Browner, Secretary

Best Available Control Technology (BACT) Determination
Tarmac Florida, Inc.
Dade County

The applicant proposes to convert an existing natural gas/No. 6 fuel oil kiln to coal firing at their portland cement manufacturing plant in northwest Dade County. The kiln (No. 2) is one of three cement kilns at the facility. Each of the kilns was permitted to convert to coal in 1984, however kiln No. 2 was never converted. In addition, it is expected that the permit limit that was established for sulfur dioxide is not adequate based on experience with burning coal in kiln No. 3.

The applicant has indicated the maximum net total annual tonnage of regulated air pollutants emitted from the fuel conversion project based on 197,100 tons per year clinker production to be as follows:

Pollutant	Max. Net Increase in Emissions (TPY)	PSD Significant Emission Rate (TPY)
TSP	18.6	25
PM_{10}	14.8	15
SO_2	1,563	40
NOx	270.5	40
CO	98.1	100
VOC	39.8	40
Pb	1.46	0.6
H_2SO_4 Mist	46.9	7
Be	0.03	0.0004

Rule 17-2.500(2)(f)(3) of the Florida Administrative Code (F.A.C.) requires a BACT review for all regulated pollutants emitted in an amount equal to or greater than the significant emission rates listed in the previous table.

BACT Determination Requested by the Applicant

Pollutant	Determination
SO_2	16.0 lb/ton of clinker
H_2SO_4 Mist	0.48 lb/ton of clinker
NOx	8.02 lb/ton of clinker

Date of Receipt of a BACT Application

September 5, 1989

Review Group Members

This determination was based upon comments received from the applicant and the Permitting and Standards Section.

BACT Determination Procedure

In accordance with Florida Administrative Code Chapter 17-2, Air Pollution, this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that in making the BACT determination the Department shall give consideration to:

(a) Any Environmental Protection Agency determination of Best Available Control Technology pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants).

(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.

(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 the most stringent control available for a similar or identical source or source category. If it is shown that this level of control is technically or economically infeasible for the source 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 Analysis

A review of the BACT/LAER clearinghouse for portland cement manufacturing facilities indicates a wide range of SO_2 limitations. The BACT determinations have been established in terms of percent reduction, mass emissions per ton of feed, per ton of product (clinker), and per unit of time (hour). In some cases determinations have been expressed in terms of pounds per million Btu heat input, or parts per million.

For percent SO_2 reduction BACT determinations have ranged from a low of 20 percent to a high of 90 percent for coal fired facilities.

For mass emissions as a function of heat input, previous BACT determinations from coal fired facilities range from 0.488 to 2.41 pounds per million Btu. Although the BACT/LAER Clearinghouse has several determinations which have been expressed in terms of throughput (lbs/ton), it is not clear as to whether or not the emissions rate given is based on raw materials, feed or clinker produced. As this is the case, these determinations will not be used in evaluating the proposed emission rate of 16 pounds per ton of clinker produced.

The applicant has proposed a SO_2 emission rate of 400 lbs/hr (16 lb/ton of clinker). This emission is based on an inherent removal efficiency of 36 percent, considering that the coal for firing the kiln will have a maximum sulfur content of 2.0 percent. Taking into consideration the kiln's maximum heat input of 162.5 MMBtu/hr, the proposed emission rate can also be equated to 2.46 lb/MMBtu.

The proposed SO_2 emission rate reduction can be compared to previous BACT determinations as follows:

Previous BACT Determinations

Basis	Least Stringent	Most Stringent	Applicant's Proposal
Percent SO_2 Reduction	20	90	36
lbs/MMBtu	2.41	0.488	2.46

A review of the SO_2 emission rate/reduction summary indicates that the applicant's proposal is not representative of what BACT should be in terms of pounds emitted per million Btu heat input and is marginal for percent SO_2 reduction. In fact, the least stringent BACT determinations (20% reduction and 2.41 lb/MMBtu) were established for a source which was permitted in 1981 and is not representative of today's "top down" BACT evaluations.

The sulfur dioxide emissions from coal fired portland cement production facilities can be reduced or controlled by restricting the coal's sulfur content, add on control equipment, and inherent removal attributed to the limestone feed which is dependent upon the kiln's design.

Several of the more stringent BACT determinations have been based on the use of low sulfur coal, with the lowest level indicated being 0.8 percent. In other cases the determinations have established that control be achieved by using lime injection and/or fabric filters as BACT, or have based BACT on the inherent SO_2 removal that is provided only by the limestone component of the feed to produce clinker. Each of these alternatives will be evaluated in greater detail below.

The applicant has proposed to use coal with a sulfur content not to exceed 1.75 percent on a monthly average with the maximum sulfur content not to exceed 2.0 percent. Given these maximums, a cost/benefit analysis of switching to a lower sulfur content coal can be conducted. The applicant has indicated that the cost of switching to coal with a sulfur content of 1.5 and 1.0 percent would be an additional $3.80 and $4.90 per ton of coal, respectively. Given the sulfur dioxide reductions that would be achieved using the lower sulfur coals the costs per ton of SO_2 controlled would be $1,784 and $983 for 1.5 and 1.0 percent sulfur coal, respectively. Each of these costs is below the New Source Performance Standard (NSPS) guideline of $2,000 per ton of SO_2 controlled that is used for establishing NSPS.

Several of the portland cement manufacturing facilities listed in the BACT/LAER Clearinghouse achieve part of the overall SO_2 control by using a baghouse as the particulate control device. The applicant stated that a baghouse would inherently provide greater removal (in the range of 20 to 45 percent) than the proposed ESP due to the filter cake formed on the bags. The clearinghouse lists some facilities in which the level of control has been additionally enhanced by incorporating lime/limestone injection.

The applicant has indicated that the additional removal which might be obtained from using a baghouse does not warrant the expense. In 1983 dollars, the cost of purchasing and operating a baghouse is estimated to be 1.9 million and 0.6 million, respectively. These costs are not justified since an efficient particulate control device (ESP) is already in place.

The BACT/LAER Clearinghouse lists facilities that provide SO_2 reductions up to 90 percent based on the inherent control that is provided only by the alkaline content of the cement dust and the particulate control device. The applicant stated that the proposed inherent SO_2 removal efficiency of 36 percent is based upon experience with burning coal in kiln No. 3. Testing of kiln No. 3 has shown an average SO_2 removal efficiency of approximately 75 percent. The applicant does not expect the same efficiency, however, for kiln No. 2 since kiln No. 2 is smaller, shorter, and less energy efficient. Being shorter, the applicant states that there would be less retention time of the gases in the kiln, thereby having less time for absorption into the

clinker. In addition, the operating conditions (temperature, excess air, etc.) may be different in kiln No. 2 than kiln No. 3. As a result, the inherent SO_2 removal efficiency is expected to be less than that achieved in kiln No. 3 and is proposed to be 36 percent.

The applicant has indicated that the amount of sulfuric acid mist (H_2SO_4) emissions will be equivalent to approximately 3 percent of the SO_2 emissions. As this is the case, BACT for H_2SO_4 will be established at 3 percent of the BACT emission limit for SO_2.

Like SO_2, a review of the BACT/LAER Clearinghouse indicates a wide range of limitations for nitrogen oxides. For NOx, previous BACT determinations have been established in terms of pounds emitted per ton of feed, pounds per million Btu heat input and parts per million.

In terms of pounds per ton of feed, previous BACT determinations for NOx range from a low of 1.6 pounds to a high of 2.9 pounds. For BACTs that were expressed as pounds per million Btu heat input, the clearinghouse indicates a range of 0.32 to 0.7 lb/MMBtu.

The applicant has proposed a NOx emission rate of 169.3 lb/hr. Taking into consideration the kiln's raw material feed rate of 81,000 lb/hr and heat input of 162.5 MMBtu/hr, the proposed emission rate equates to 4.2 lb/ton of feed and 1.04 lb/MMBtu, respectively.

The proposed NOx emission rate can be compared to previous BACT determinations as follows:

Previous BACT Determinations

Basis	Least Stringent	Most Stringent	Applicant's Proposal
lbs/ton feed	2.9	1.6	4.2
lb/MMBtu	0.7	0.32	1.04

A review of the NOx emission rate summary indicates that the applicant's proposal is not representative of what BACT should be both in terms of pounds emitted per ton of feed and pounds emitted per million Btu heat input. Here again, the least stringent of these BACT determinations were established for sources which were permitted several years ago, and hence is not representative of today's "top down" BACT evaluation.

The emissions of nitrogen oxides result from the oxidation of nitrogen in the fuel (fuel NOx) as well as in incoming combustion air (thermal NOx). Based on these principles, the formation of NOx is dependent upon the type of fuel, its nitrogen content, and the combustion parameters of the kiln. Although cement kilns are

limited as to what can be done to limit NOx emissions, previous BACT determinations indicate that most, if not all, facilities are controlling NOx emissions to levels which are lower than proposed by the applicant.

Environmental Impact Analysis

A review of the maximum ambient impacts associated with the coal conversion of kiln No. 2 indicates that the increase in SO_2 emissions will contribute significantly to the present background concentrations. Based on the applicant's proposal for BACT, the impacts associated with the increase in SO_2 emissions are estimated to be 162 ug/m^3, 3-hour; 54 ug/m^3, 24-hour; and 3.6 ug/m^3, annual average. These impacts are well in excess of the present background concentrations of 15 ug/m^3, 3-hour; 8 ug/m^3, 24-hour; and 3 ug/m^3, annual average.

Based on this impact review, the Department has determined that Tarmac's proposal to convert kiln No. 2 to coal firing has the potential to contribute substantially to the SO_2 concentration in that area. As this is the case, the Department believes that a BACT determination which would reduce the proposed SO_2 impacts is justified. Although BACT has also been required for NOx emissions, the maximum annual impact associated with the conversion of kiln No. 2 is below the significant impact level of 1.0 ug/m^3. As this is the case, the increase in NOx impact due to the proposal will not be a major factor in the BACT determination.

In addition to the increased emissions of criteria pollutants, the conversion to coal has the potential to generate hazardous air pollutants which are not associated with oil firing. These pollutants (zinc, phenol, and pyridine) should be controlled to some degree by the existing control equipment, and hence should not have an effect on the BACT determination. The conversion may also result in increases of other noncriteria pollutants. Here again, these increases would be minimal and would not affect the BACT determination.

Potential Sensitive Concerns

The applicant has indicated that any level of control which would result in higher costs to the facility such as switching to a lower sulfur content coal would affect the company's ability to be competitive with other cement suppliers. For example, the additional cost of switching to a coal with a 1.5 or 1.0 percent sulfur content would increase the cost of production by 8 and 9%, respectively. This would limit Tarmac's ability to be competitive with other cement manufacturers since Tarmac is currently just marginally competitive in this industry. In addition, Tarmac as well as other domestic cement producers, competitiveness is being currently strained by the importing of cement from Mexico.

Since 1983, Mexican producers have been importing gray portland cement and cement clinker into Arizona, New Mexico, Texas, and Florida. This cement, which has been alledgely sold at less than fair value and in some cases below production costs, has led to decreased sales by domestic producers, and resulted in the closure of 2 cement plants in Florida. As this is the case, any control measures that result in higher production costs would be economically burdensome to the applicant.

BACT Determination by DER

Discussion

Based on the information provided by the applicant and the studies conducted as part of the Department's review, the levels of control proposed by the applicant are not representative of BACT.

For sulfur dioxide the level of control proposed by the applicant (36% control and 2.46 lb/MMBtu) is only equivalent at best to the least stringent BACT determinations for other portland cement manufacturing facilities. Although the Department recognizes the economic hardship that could result from switching to a lower sulfur coal, there is evidence to suggest that a lower SO_2 emission rate can be achieved without switching.

In 1984 Tarmac applied for and received a modification of their 1980 federal Prevention of Significant Deterioration (PSD) permit to convert kiln Nos. 1, 2, and 3 to coal firing. An excerpt from the BACT determination for that PSD permit provides information on the expected level of control as follows:

"The applicant submitted test data while firing residual oil containing 2.38 percent sulfur to determine kiln product absorption of SO_2. The data indicated that 91.3% of the potential SO_2 was absorbed by the aggregate processed in kiln Nos. 1 and 2 and 98.7% in kiln No. 3. A BACT determination was made based upon the applicant's data.

After one of the kilns [kiln 3] had been converted to fire coal, the exhaust gases were tested for SO_2 content. The data indicated the absorption of SO_2 in the kiln product was 75 to 80 percent, not the reduction originally anticipated. The coal fired in the kiln during the test contained two percent sulfur."

This information indicates that for kiln No. 3 the efficiency of SO_2 absorption decreased by a maximum of 24 percent when coal was fired instead of residual oil. Although the data indicate that the efficiency of absorption was higher for kiln No. 3 (98.7% for kiln No. 3 compared to 91.3% for kiln Nos. 1 and 2) when firing residual oil, it is expected that the differential efficiency

decrease for firing coal instead of residual oil should be similar for all three kilns. Based on this the expected efficiency of SO_2 absorption when firing coal would be a minimum of 69.4% instead of the proposed 36 percent for kiln 2.

A sulfur dioxide reduction of 69.4 percent is more representative of previous BACT determinations. In terms of pounds emitted per heat input, a 69.4 percent reduction equates to 1.18 lb/MMBtu which also better represents BACT. In addition, 1.18 lb/MMBtu is consistent with the New Source Performance Standard (NSPS) for fuel burning equipment of similar size. For coal fired industrial-commercial-institutional steam generating units with heat input capacities between 100 and 250 million Btu per hour the least stringent NSPS requires that SO_2 emissions not exceed 1.2 lb/MMBtu.

For nitrogen oxides the level of control proposed by the applicant also exceeds what has been previously established as BACT. Here again, the Department believes that there is evidence to suggest that cement kilns can meet a lower than proposed emission limitation.

Taking into consideration the applicant's proposed NOx emission rate of 169.3 lb/hr with the proposed clinker production rate of 25 tons per hour, the NOx emissions are equivalent to 6.77 pounds per ton of clinker produced. This level greatly exceeds the uncontrolled NOx emission factor of 2.8 lb/ton of clinker that is given in EPA AP-42 for both dry and wet process kilns.

The AP-42 emission factor, equivalent to 1.74 lb/ton of feed, is more representative of previous BACT determinations. In terms of heat input, the AP-42 emission factor equates to 0.43 lb/MMBtu. This emission level is within the range of previous BACT determinations, though it is on the stringent side.

By comparison, the least stringent NSPS for NOx from coal fired (except lignite) industrial-commercial-institutional steam generating units is 0.70 lb/MMBtu. This level, equivalent to a 2.84 lb/ton of feed for the Tarmac facility is representative of the least stringent BACT determination both in terms of emission per ton of feed and lb/MMBtu. As this is the case, this level (0.7 lb/MMBtu) does not appear to be unreasonable as BACT for the Tarmac facility.

Conclusion

Based on the information presented, the Department has determined that BACT for the Tarmac facility is equivalent to limiting the sulfur dioxide and nitrogen oxide emissions to the least stringent NSPS for coal fired industrial-commercial-institutional steam generating units. This decision is consistent with the requirements that all BACT determinations be at least as

stringent as any applicable NSPS. Although kilns are not steam generating units, emission limitations for fuel burning equipment should be consistent where possible. As this is the case, an emission limitation based on the least stringent NSPS limitation for another type of coal fired equipment is judged to be reasonable as a "top-down" BACT determination. In fact, any emission limitation which would exceed the least stringent NSPS would be judged to be unrepresentative of today's "top-down" BACT procedure.

The Department has determined that these levels are consistent with previous BACT determinations for portland cement manufacturing facilities and the information available suggests that these levels are reasonable for the Tarmac facility. The BACT emission levels are thus established as follows:

Pollutant	Emission Limit	Equivalent Limit
SO_2	1.20 lb/MMBtu	7.80 lbs/ton of clinker produced
NOx	0.70 lb/MMBtu	4.55 lbs/ton of clinker produced
H_2SO_4 Mist	0.036 lb/MMBtu	0.23 lbs/ton of clinker produced

In accordance with the Department's Final Order issued on December 7, 1990, (DOAH Case No. 90-3852, OGC File No. 90-0954), appended hereto is Attachment A reflecting the amount and percentage of SO_2 increment consumed in Class I and Class II areas in conjunction with SO_2 emission rates of 195 lbs/hr and 275 lbs/hr, respectively.

Details of the Analysis May be Obtained by Contacting:

Barry Andrews, P.E., BACT Coordinator
Department of Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Recommended by:

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

January 25, 1991
Date

Approved by:

Carol M. Browner, Secretary
Dept. of Environmental Regulation

February 25, 1991
Date

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TARMAC OF FLORIDA, INC.,

Petitioner

vs.

DOAH CASE NO. 90-3852
OGC FILE NO. 90-0954

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION,

Respondent.
_____/

FINAL ORDER

On June 19, 1990, the State of Florida Department of Environmental Regulation ("Department") received a petition for administrative hearing from Petitioner, TARMAC OF FLORIDA, INC. The petition challenged the Department's decision to include specific conditions 3, 4, and 5 in Permit No. 13-169901 to convert their kiln no. 2 to coal firing at their facility in Medley in Dade County.

On September 28, 1990, the assigned Hearing Officer issued an Order Granting Consolidation of Edmund F. Benson v. Tarmac of Florida, Inc., & DER, OGC file no. 90-1364, DOAH file no. 90-5827 with the above-styled case. On November 21, 1990, after Petitioner failed to timely respond to the Order Granting Motion for More Definite Statement issued on September 26, 1990, the assigned Hearing Officer issued an Order which severed the Benson case from Tarmac of Florida, Inc. v. DER and closed that Division of Administrative Hearings file and relinquished jurisdiction back to the Department.

On December 3, 1990, after receiving a Stipulation for Dismissal, the assigned Hearing Officer issued an Order which closed the Division of Administrative Hearings file and relinquished jurisdiction back to the Department. (Exhibit 1) There being no further matters to consider,

IT IS ORDERED:

The petition is hereby dismissed and the Department's Southeast District Office is directed to issue Permit No. 13-169901 in accordance with the Stipulation. (Exhibit 2)

Any party to this 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 Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; 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 Order is filed with the clerk of the Department.

DONE AND ORDERED this 7 day of December, 1990, in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

DALE TWACHTMANN
Secretary
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing FINAL ORDER has been furnished by U.S. Mail to James S. Alves, Esq., Hopping Boyd Green & Sams, P.O. Box 6526, Tallahassee, FL 32314, on this 10th day of December 1990.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Patricia E. Comer
Assistant General Counsel

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400
Telephone: (904) 488-4805

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TARMAC FLORIDA, INC., Petitioner,	)	
vs.	)	CASE NO. 90-3852
DEPARTMENT OF ENVIRONMENTAL REGULATION, Respondent.	)	

STIPULATION FOR DISMISSAL

Pursuant to Florida Administrative Code rule 22I-6.033, Petitioner Tarmac Florida, Inc. ("Tarmac" or "Petitioner") and Respondent State of Florida Department of Environmental Regulation ("Department" or "Respondent") jointly file this Stipulation for Dismissal and request the Hearing Officer enter an order incorporating same and dismissing this case in accordance therewith. The parties jointly agree:

1. This proceeding relates to Tarmac's application to the Department for an air pollution source construction permit authorizing conversion (to burn coal) of Kiln No. 2 at Tarmac's facility in Dade County. In its Petition for Administrative Proceedings, filed on June 19, 1990, Tarmac contested certain SO_2 and NO_x limitations applicable to Kiln No. 2 as set forth in the Intent to Issue Permit (PSD-FL-142) and accompanying documents that it received from the Department on April 4, 1990.

EXHIBIT 2

2. The parties have agreed to a mutually acceptable resolution of the issues raised in Tarmac's Petition. The terms of this resolution are set forth below in subparagraphs a., b., c., d., and e.

a. The Department will alter the specific conditions set forth in PSD-FL-142 as follows:

> 3. Sulfur dioxide emissions from kiln No. 2 shall not exceed ~~1.2 lbs/MMBtu heat input input from coal combustion~~ 7.8 lbs/ton of clinker produced, 195.0 lbs/hr, 768.7 tons/yr.
>
> 4. Sulfuric acid mist emissions from kiln No. 2 shall not exceed ~~0.036 lbs/MMBtu heat input from coal combustion~~ 0.23 lbs/ton of clinker produced, 5.86 lbs/hr, 23.06 tons/yr.
>
> 5. Nitrogen oxides emissions from kiln No. 2 shall not exceed ~~0.7 lbs/MMBtu heat input from coal combustion~~ 4.55 lbs/ton of clinker produced, 113.8 lbs/hr, 448.4 tons/yr.
>
> * * *
>
> 11. Tarmac shall conduct a series of compliance tests for SO_2, H_2SO_4 mist, and NO_x emissions every two months for up to one year to allow representative sampling during different times of the year. The tests shall be performed in accordance with the compliance test methods specified in this permit. In the event that this series of tests results in SO_2 emissions in the range of 195 to 275 lbs/hr (up to 11 lbs/ton clinker, 1,084.1 TPY), NO_x emissions in the range of 113.8 to 169.3 lbs/hr (up to 6.77 lbs/ton clinker, 667.2 TPY), or H_2SO_4 mist emissions in the range of 5.86 to 8.25 lbs/hr (up to 0.33 lbs/ton clinker, 32.52 TPY), the Department, if requested by the Permittee, shall reevaluate BACT and consider upward adjustments of the emission limitations for the indicated constituents based on available data. During this testing and evaluation period, the Permittee shall make reasonable efforts to limit air emissions, and the

Department shall not initiate enforcement proceedings. Any upward adjustment of emission limitations pursuant to this paragraph shall be the subject of public notice in a local newspaper pursuant to Department rules. The Department's determination based on the data produced under this paragraph shall be a point of entry for purposes of Section 120.57, Florida Statutes.

b. Specific Condition No. 11, above, will be entirely new, and subsequent conditions shall be renumbererd accordingly.

c. The Department will append to the Final BACT Determination accompanying PSD-FL-142 data reflecting the amount and percentage of SO_2 increment consumed in Class I and Class II areas in conjunction with the emission rates of 195 lbs/hr and 275 lbs/hr, respectively. This data is attached hereto as Attachment A.

d. The expiration date of PSD-FL-142 shall be June 30, 1992.

e. The referenced air permit, PSD-FL-142, shall be issued by the Department in final form, in accordance with subparagraphs a., b., c., and d., by no later than December 12, 1990.

WHEREFORE, Petitioner and Respondent respectfully request entry of an order incorporating this Stipulation for Dismissal and dismissing this case.

Respectfully submitted this _____ day of November, 1990.

DEPARTMENT OF ENVIRONMENTAL REGULATION

Patricia E. Comer
Assistant General Counsel
Twin Towers Office Building
2600 Blair Stone Road, #654
Tallahassee, FL 32399-2400
(904) 488-9730

Attorney for Respondent

Date November 26 1990

HOPPING BOYD GREEN & SAMS

James S. Alves
123 South Calhoun Street
Post Office Box 6526
Tallahassee, FL 32314
(904) 222-7500

Attorneys for Petitioner

Date _____

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TARMAC FLORIDA, INC.,	)	
	)	
Petitioner,	)	
	)	
vs.	)	CASE NO. _____
	)	
STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL REGULATION,	)	
	)	
Respondent.	)	
	)	

PETITION FOR FORMAL ADMINISTRATIVE PROCEEDINGS

Petitioner, Tarmac Florida, Inc. ("Tarmac" or "Petitioner"), by and through its undersigned counsel, hereby files this petition for formal administrative proceedings pursuant to Section 120.57(1) and Chapter 403, Florida Statutes, and Titles 17 and 28, Florida Administrative Code, in order to challenge certain construction permit conditions set forth in the Department of Environmental Regulation's ("DER", "Department" or "Respondent") March 29, 1990 Notice of Intent to Issue Permit. In support of this Petition, Tarmac states:

IDENTIFICATION OF PARTIES

1. The name, address, and telephone number of the Petitioner is Tarmac Florida, Inc., Post Office Box 2998, Hialeah, Florida, 33102, 305/823-8800.

2. The name and address of the Respondent is State of Florida, Department of Environmental Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

RESPONDENTS' FILE NUMBER AND COUNTY

3. DER has assigned File Nos. AC 13-169901 and PSD-FL-142 to this matter. This Petition relates to a DER air pollution source construction permit to alter the fuel type capability of Kiln No. 2 at Tarmac's facility in Dade County, Florida.

RECEIPT OF NOTICE OF AGENCY ACTION

4. Tarmac received DER's Intent to Issue Permit by U.S. Mail on or about April 4, 1990. The Department extended the time for initiating administrative proceedings to June 19, 1990.

SUBSTANTIAL INTERESTS AFFECTED

5. Tarmac operates a Portland cement manufacturing plant in Dade County that has been in existence for over twenty years. Tarmac has applied to DER for an air pollution source construction permit authorizing conversion of Kiln No. 2 at the facility to burn coal. Tarmac has a very significant investment in the ongoing and efficient operation of the facility, including Kiln No. 2. The proposed coal conversion is essential to Tarmac's ongoing viability in the domestic cement manufacturing industry, which

currently is threatened by foreign importation of cement products. Certain conditions contained in the DER construction permit for Kiln No. 2 are unreasonable, unnecessary, and unauthorized under Chapter 403, Florida Statutes. These conditions would without justification expose Tarmac to oppressive and infeasible operating costs. Therefore, the Intent to Issue Permit substantially and detrimentally impacts Tarmac.

DISPUTED ISSUES OF MATERIAL FACT

6. The disputed issues of material fact involve the sulfur dioxide ("SO_2") and nitrogen oxides ("NO_x") emission limitations proposed by DER as best available control technology ("BACT") in the construction permit. DER's BACT determination, as currently proposed, is arbitrary and capricious. Specific issues of material fact include whether DER, in formulating SO_2 and NO_x BACT limitations applicable to the Kiln No. 2 coal conversion:

a. Is ignoring site-specific emissions data;

b. Is misinterpreting site-specific emissions data;

c. Is improperly comparing different processes and industries to Tarmac's proposed process;

d. Is improperly and insufficiently accounting for economic considerations;

e. Is basing BACT emission limitations on factors not germane to the BACT process;

f. Is incorrect in determining that its proposed BACT limitations are achievable and economically feasible;

g. Is erroneously applying scientific principles to the circumstances at hand;

h. Is improperly applying applicable precedents in the formulation of BACT limitations;

i. Is acting in a manner that is not uniform and consistent with its previous actions on similar or analogous applications; and

j. Is capable of articulating facts and circumstances that justify the incipient agency policy embodied in the Intent to Issue Permit.

FACTS

7. Tarmac operates a Portland cement manufacturing plant in northwest Dade County, just east of the Turnpike Extension and south of U.S. 27. The Tarmac facility consists of three cement kilns, each of which is the subject of current air operation permit issued by DER. Kilns 1 and 2 are permitted to burn natural gas or No. 6 fuel oil, and each has a production capacity of 25.0 tons per hour (TPH) of clinker. Kiln 3 is a larger kiln that is permitted to

burn coal, natural gas, or No. 6 fuel oil and has a capacity of 87.5 TPH clinker.

8. On or about August 31, 1989, Tarmac submitted to DER an application for a construction permit that would authorize conversion of Kiln No. 2 to coal burning capability.

9. The proposed Kiln No. 2 coal conversion will increase emissions of various regulated air pollutants. The United States Environmental Protection Agency ("EPA") and DER have implemented regulations that require prevention of significant deterioration ("PSD") review in conjunction with modifications of existing sources that increase air emissions above specified threshold amounts. Tarmac's application is subject to PSD review. EPA's PSD regulations are found at 40 CFR §§51.166 and 52.21; the PSD program is administered through Florida's EPA-approved State Implementation Plan, which is comprised of applicable portions of Chapter 17-2, Florida Administrative Code. DER's PSD regulations are codified at Florida Administrative Code Rule 17-2.500. These regulations require application of BACT, a term that is defined by Rule 17-2.100(29) as follows:

> An emission limitation, including a visible emissions standard, based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems and techniques (including fuel

cleaning or treatment or innovative fuel combustion techniques) for control of each such pollutant.

10. Technical information and analysis required by the PSD regulations was set forth in Tarmac's application. Information pertaining to control technology review, and BACT, was set forth in Section 4.0 of the application.

11. Although DER has responsibility for making BACT determinations in Florida, EPA typically comments upon and participates in the process. DER historically adheres to EPA guidance. In December, 1978, EPA published Guidelines for the Evaluation of BACT to assist states in rendering BACT determinations. Late in 1987, EPA issued a memorandum advocating a so-called "top-down" approach to BACT determinations, reflecting a stringent shift in EPA policy that has proven to be controversial. In general, the top-down BACT approach requires that deliberations begin with the most stringent limitation that has been applied to the same source category; the applicant must propose to comply with this limitation unless there are specific facts warranting its rejection, such as site-specific technical or economic infeasibility. More recently, EPA made available a new "draft" top-down BACT guidance document in March, 1990.

12. In its construction permit application, Tarmac proposed that BACT for SO_2 is inherent removal in the kiln. Assuming a minimum removal efficiency of 36%, Tarmac proposed that the SO_2 emission limitation be set at the rate

of 400 lbs./hr. (16.0 lbs./ton of clinker). Moreover, Tarmac proposed that performance tests be undertaken after start-up of Kiln No. 2, and that the SO_2 limitation should thereafter be adjusted downward, as justified.

13. By letter dated October 4, 1989, DER informed Tarmac that EPA had requested additional information on Tarmac's application. More specifically, DER forwarded a draft letter from EPA indicating that PSD/BACT review was required for NO_x, and that Tarmac's analysis of proposed BACT for SO_2 emissions requires consideration of alternatives such as adding a baghouse or utilizing lower sulfur coal.

14. By letter dated November 13, 1989, Tarmac provided detailed responses to EPA's comments and concerns. Tarmac acknowledged that a BACT analysis is required for NO_x, and proposed a BACT limitation of 169.3 lbs./hr. (6.77 lbs./ton clinker). Moreover, Tarmac provided a detailed response to EPA's concerns regarding what constitutes appropriate BACT for SO_2 emissions. Tarmac provided cost figures demonstrating that low sulfur coal is not an economically feasible alternative. Tarmac also provided technical information demonstrating that the potential alternative of adding a baghouse to Kiln No. 2 would not significantly reduce SO_2 emissions and would not be economically feasible. Finally, Tarmac showed that predicting the

inherent SO_2 removal that will occur in Kiln No. 2 is extremely problematic, and reiterated its willingness to accept the lowest limit demonstrably achievable as ultimately gleaned from post-coal conversion operations.

15. EPA issued another letter commenting upon the BACT analysis for the Tarmac coal conversion on December 13, 1990. In this letter, EPA requested additional data on inherent SO_2 removal and on the economic feasibility of utilizing low sulfur coal.

16. By letter dated January 15, 1990, Tarmac provided additional analysis in response to EPA's concerns. In this letter, Tarmac provided detailed information demonstrating that low sulfur coal is not an economically feasible option for Kiln No. 2. With respect to SO_2 removal, Tarmac explained why data from Kiln No. 3 are of limited usefulness for purposes of predicting emissions from Kiln No. 2, and concluded:

> Tarmac does not believe that SO_2 emissions from Kiln 2 will be as high as requested. The problem is, without adequate test data on the kiln, what should the emission limit be? No one knows the answer to this until the kiln can be converted and tested. This is precisely what Tarmac is proposing, and is willing to accept as a permit condition, a testing plan which will define the appropriate emission limit for the kiln. This will avoid the past mistake on Kiln 3 of trying to guess an emission limit that can be met, and guessing wrong.
>
> There seems to be no argument that the control technology for SO_2 removal is the cement kiln itself (i.e., no add-on control equipment). As

arbitrarily compared different industrial operations to Tarmac's operations, refused to consider adequately economic factors, and rejected without explanation Tarmac's proposal for a series of tests resulting in a downward adjustment of its proposed BACT limitation.

20. By letter to DER dated May 23, 1990, Tarmac volunteered to undertake changes in its process whereby the initial SO_2 emission limitation (subject to downward adjustment) for Kiln No. 2 would be 321 lbs./hr., or approximately 20% lower than the proposal acceptable to EPA. DER rejected this proposed limitation.

FACTS REQUIRING MODIFICATION OR REVERSAL OF THE DEPARTMENT'S ACTION

21. Facts requiring modification or reversal of the Department's BACT determination are as follows:

a. For purposes of establishing BACT limitations, dry process cement kilns cannot legitimately be compared with wet process cement kilns, such as Tarmac's;

b. NSPS for fossil fuel steam generators are not appropriate for comparison to Portland cement plants because of fundamental differences in these industries;

c. DER must properly consider the following site-specific factors in the Tarmac BACT

determination: wet process plant; kiln size and capacity; raw feed sulfur content; coal sulfur content; existing precipitator for particulate control; and proper interpretation of historic test data from other kilns at the plant;

d. Previous BACT determinations and test data from other wet process kilns (which is very limited) cannot be reflexively applied to Tarmac Kiln No. 2 without considering site-specific distinctions;

e. EPA has approved in writing Tarmac's plan for a one year testing period to confirm an acceptable BACT emission limitation, with Tarmac's proposed emission limitations as a starting point for this determination;

f. DER has ignored site-specific emissions data;

g. DER has misinterpreted site-specific emissions data;

h. DER has improperly compared different processes and industries to Tarmac's operations;

i. DER has improperly and insufficiently accounted for economic considerations;

j. DER's proposed BACT determination is based upon factors not germane to the BACT process;

k. DER's proposed BACT limitations are neither achievable nor economically feasible;

l. DER has erroneously applied scientific principles to the circumstances at hand;

m. DER's BACT determination contravenes applicable precedents;

n. DER has not acted in a manner that is uniform and consistent with its previous actions on similar or analogous applications;

o. DER cannot articulate facts and circumstances that justify the incipient policy embodied in the Intent to Issue Permit and related documents; and

p. Tarmac's EPA-approved proposal is reasonable and comports with applicable regulations.

LAWS ENTITLING PETITIONER TO RELIEF

22. The laws entitling Tarmac to relief in this action include the Clean Air Act (42 U.S.C. §§7401, et seq.); 40 CFR §§51.166 and 52.21; Chapters 120 and 403, Florida Statutes; Titles 17, 22I and 28, Florida Administrative Code; and the United States and State of Florida Constitutions.

RELIEF SOUGHT

23. Tarmac requests that DER determine BACT for Kiln No. 2 in accordance with Tarmac's EPA-approved proposal, and establish an emission limitation for SO_2 of 321 lbs./hr. and for NO_x of 169.3 lbs./hr., with the understanding that data would be collected during initial operations under the construction permit, and that these limitations, accordingly, would be subject to downward adjustment to the maximum extent feasible.

Respectfully submitted this 19th day of June, 1990.

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TARMACPET:cla