Tarmac

CERTIFIED MAIL
0002 7981 4053

Tarmac America, Inc.
455 Fairway Drive
Deerfield Beach, FL 33441
(954) 481-2800
Fax (954) 480-9352
www.tarmacamerica.com
Environmental Services
Direct line (954) 425-4165
Direct fax (954) 480-9352

29 December 2000

Ms. Mallika Muthiah, P.E., Chief
Air Facilities Section
Miami-Dade County Environmental Resources Management
33 SW 2nd Avenue
Miami, Florida 33130-1540

RE: **Pennsuco Cement**
Dade County – AP
Facility ID# 0250020

Dear Ms. Muthiah:

I have been directed to respond to your request for additional information [RAI] letter dated 13 December to H. Johnson regarding the construction permit revision for the above facility. I appreciated the time Courtney Pitters and Ray Gordon of your staff spent discussing the application. Following are responses to the issues raised in your RAI.

1. Please provide an explanation of how annual sulfur dioxide emissions will be maintained at an annual level equal to or less than given in the present permit without any additional controls. Sulfur dioxide emissions are directly related to annual clinker production, which will be over 1.6 million instead of 1.4 million as presently allowed.

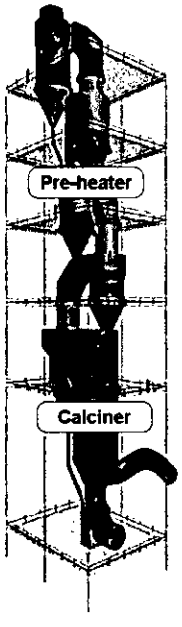
Sulfur dioxide [SO_2] is generated from volatilization and subsequent oxidation of sulfur compounds in the raw materials within the preheater and precalciner, and by oxidation of sulfur compounds in the fuel during combustion. Therefore, SO_2 emissions are not directly related to the annual clinker production but are related to the sulfur content of the raw materials and the fuel. The raw materials used in the Pennsuco cement plant have typically been low in sulfur content, so the majority of the sulfur will be from the fuel. Control of SO_2 emissions in multi-stage combustion calciner systems depends on the system process rather than pollution control equipment. The important factor in reducing SO_2 is the presence of alkaline compounds or specifically calcium oxide [i.e., kiln feed] which reacts with the sulfur compounds. The SO_2 coming from the kiln fuel – the main source of sulfur – is thus almost totally absorbed. A significant proportion of the SO_2 from raw materials will be removed through contact with the incoming alkaline raw

materials [i.e., kiln feed] which flow counter to the gas flow. Additionally, further contact is achieved in the raw mill where the flue gases are used to dry incoming kiln feed.

The SO_2 limit requested in the construction permit revision is achievable through the process control described in the application. The existing construction permit SO_2 limit was predicated on the net changes from the baseline emissions necessary to net out of PSD. The limit requested in the permit revision is a factor below the existing limit, but will maintain the existing annual SO_2 emissions. The equipment manufacturers have guaranteed the requested emission factor, and additionally, the use of the CEM system conditioned in the existing permit will ensure that the described process control will be effective.

2. Please provide the particulars of the Fuller Low NOx In-Line Calciner and the Polysius Multi-stage Calciner that are being considered for the project, specifically addressing how these units will meet the revised long-term nitrogen oxides emissions limit of 2.38 pounds per ton of clinker.

Oxides of nitrogen [NOx] emissions are generated from fuel combustion in the pyroprocessing system. NOx is generated during fuel combustion from the chemically bound nitrogen in the fuel and by elemental nitrogen in the combustion air. Both proposed pyroprocessing systems effectually control nitrogen oxides in a comparable manner. NOx emissions generated in the rotary kiln [kiln exit gases] are reduced to elemental nitrogen by multi-staged combustion in the calciner. The calciner fuel is also burned under reducing conditions to prevent new NOx from being generated in the calciner. This is achieved by a staggered introduction of raw feed and combustion air in the calciner to control temperature in the reducing zone of the calciner and to ensure complete combustion of the calciner fuel.



Through these process mechanisms both fuel NOx and thermal NOx will be controlled to meet the revised NOx emission limits requested in the construction permit revision. Again, both equipment manufacturers have guaranteed the requested emission factor, and the use of the CEM system conditioned in the existing permit will ensure that the described process control will be effective.

3. Provide similar information from both companies regarding the main kiln burner and the calciner burners.

The kiln and calciner burners do not provide any control technology related to SO_2 or NOx emissions. The control technology is effectuated in the calciner through combustion process controls for NOx and the inherent "scrubbing" in an alkaline environment to control SO_2.

process controls for NOx and the inherent "scrubbing" in an alkaline environment to control SO_2.

4. We agree that the MACT rules for greenfield plants do not apply to the Tarmac project. Rather the MACT for new kilns at brownfield sites applies. Therefore, a VOC (THC) emission limit of 50 ppm does not apply to this project.

   Understood, no response necessary.

5. The department finds that the THC (VOC) monitor is necessary to demonstrate compliance with the emissions limit of 0.19 pounds per ton of clinker. We believe the need to monitor continuous compliance with the lower value is constituted by the fact that the emissions limit is substantially less than the limit for a greenfield plant, which also requires THC (VOC) monitoring. Additionally, the Florida DEP has advised us that several plants are having difficulty meeting VOC limits and they are requiring THC (VOC) monitors at all new kilns, whether or not they are at greenfield sites.

Emissions of VOC are controlled by utilization of proper combustion practices to maximize the complete combustion of fuels. The control of process temperatures, excess air and process fuels typically result in simultaneous optimization for control of VOC plus CO and NOx. Tarmac does not believe there is a demonstrated need for continuous emission monitoring for VOC emissions. The requested emission limit of 0.19 pounds per ton of clinker is not substantially less than the limit for a greenfield plant. On the contrary, the requested limit is 1½ times the limit of a recent greenfield plant in central Florida and almost 2 times the limit of the new brownfield plant in Miami-Dade County. The difficulties experienced by other plants is Florida have been related to oils in mill scale used as raw material. Tarmac is aware of these problems and does not intend to incorporate such material in the mix design. As a cost effective measure, Tarmac would request that VOC emissions be tested initially to comply with the revised emission limit as conditioned in the existing permit. Continued compliance would be assumed by annual CO emission testing. In the event that initial testing demonstrates the need for continuous VOC emission monitoring, Tarmac would install the monitors.

6. The Florida DEP has advised us that the permit modification should be public-noticed. Significant modification including changes in production rates, emissions, and operating hours constitute this as a separate permitting action from the previous one and because all construction permit Intents to Issue must be noticed per Florida DEP, we will require you to notice our Intent.

The application under review is to revise the existing construction permit to increase the plant production rate. The emission limits and certain operating hours are also revised so that the proposed increased production rate will not result in an increase in facility-wide emissions; as such, the application does not constitute a "modification" as defined in the Florida Administrative Code [FAC]. The requested changes in production rates,

emissions, and operating hours [i.e., physical or operational changes] *do not result in an increase in actual emissions*. Therefore, the review is not a separate permitting action from the previous one but a revision to the existing construction permit.

Tarmac does not believe the permit revision warrants a public notice based on the provisions in Rule 62-110, FAC. Before a public notice of a revision is required, the DERM or the State DEP is required to make a finding that the proposed revision would cause *"heightened public concern or a likelihood of a request for administrative proceedings"* because of factors related directly to the revision – primarily the *"potential effect on the environment or natural resources"*. Where a proposed revision is inconsistent with an existing permit condition, but would not constitute a *"modification"*, [i.e., *"reasonably expected to cause new or significant greater adverse environmental impacts"*], then the existing construction permit need only be revised, and no public notice would be necessary or appropriate.

I trust the above provides the necessary information to complete the review of the permit revision. Tarmac would like to be afforded the opportunity to review a "draft" of the permit revision prior to a final agency action. Should you have any questions regarding the above information or need further information please contact me at (954)425-4165.

Sincerely,

Scott Quaas
Corporate Environmental Manager
Environmental Services–Florida Business

cc: H. Johnson
A. Townsend
R. Hawks – EQM
S. Brooks – Brooks Associates
A. Linero – Florida DEP