



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

May 12, 2011

Sent by Electronic Mail – Received Receipt Requested

Mr. Al Townsend
Director of Alternative Fuels
Tarmac America, LLC
455 Fairway Drive, Suite 200
Deerfield Beach, FL 33441

Re: **Request for Additional Information**
Project No. 0250020-031-AC
Tarmac America, LLC, Pennsuco Cement Plant
Request to Fire Alternative Solid Fuels

Dear Mr. Townsend:

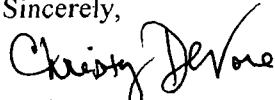
On April 20, 2011, we received your application and sufficient fee for an air construction permit requesting authorization to construct mechanical and pneumatic handling systems to fire alternative solid fuels in the existing kiln at the Pennsuco Cement Plant, which is located in Miami-Dade County at 11000 NW 121 Way in Medley, Florida. The application indicates that the project is subject to general preconstruction review pursuant to Rule 62-212.300 of the Florida Administrative Code (F.A.C.), but is not subject to preconstruction review for the Prevention of Significant Deterioration (PSD) of Air Quality pursuant to Rule 62-212.400, F.A.C. As we discussed at the follow up meeting on May 11, 2011, the application is incomplete. In order to continue processing your application, please provide the additional information requested in the April 29th email (attached) from Jeff Koerner, Division of Air Resource Management. Also address the issues identified in the May 6th email (attached) from Mallika Muthiah, Miami-Dade County Department of Environmental Resources Management. Should your response to any of the requested items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

The information is requested pursuant to the following F.A.C. regulations: Rule 62-4.050 (Procedures to Obtain Permits and Other Authorizations; Applications); 62-4.055 (Permit Processing); 62-4.070 (Standards for Issuing or Denying Permits; Issuance; Denial); 62-4.120 (Construction Permits); 62-204.800 (Federal Regulations Adopted by Reference); 62-212.300 (Permits Required); 62-210.370 (Emissions Computations and Reporting); 62-210.900 (Forms and Instructions); 62-212.300 (General Preconstruction Review); and 62-212.400 (Prevention of Significant Deterioration). All applications for a Department permit must be certified by a professional engineer registered in the State of Florida pursuant to Rule 62-4.050(3), F.A.C. This requirement also applies to responses to Department requests for additional information of an engineering nature. For any material changes to the application, please include a new certification statement by the authorized representative or responsible official.

We will resume processing your application after receipt of the requested information. You are reminded that Rule 62-4.055(1), F.A.C. requires applicants to respond to requests for information within 90 days or to provide a written request for an additional period of time to submit the information. If you have any questions regarding this matter, please contact me at 850/717-9085.

REQUEST FOR ADDITIONAL INFORMATION

Sincerely,



Christy DeVore, P.E.
New Source Review Section

This letter was sent to the following people by electronic mail with received receipt requested.

Mr. Al Townsend, Tarmac (atownsend@titanamerica.com)
Mr. Max Lee, Koogler and Associates (mlee@kooglerassociates.com)
Ms. Mallika Muthiah, Miami-Dade DERM (muthim@miamidade.gov)
Mr. Lee Hoeffert, DEP Southeast District Office (lee.hoeffert@dep.state.fl.us)
Ms. Kathleen Forney, EPA Region 4 (forney.kathleen@epa.gov)
Ms. Heather Abrams, EPA Region 4 (abrams.heather@epa.gov)
Mr. David Langston, EPA Region 4 (langston.david@epa.gov)
Ms. Vickie Gibson, DEP BAR Reading File (victoria.gibson@dep.state.fl.us)

JFK/scd

Attachments

REQUEST FOR ADDITIONAL INFORMATION

From: Koerner, Jeff
Sent: Friday, April 29, 2011 3:13 PM
To: 'mlee@kooglerassociates.com'
Cc: DeVore, Christy
Subject: RE: phone call

Max,

I would still like to discuss some of these issues today, if you get a chance.

So far, the issues we have questions on are:

- For each alternative fuel, what are the following values? All materials: heating value, moisture, density, volatiles, ash, sulfur, chlorine, fluorine and mercury. Tire-derived fuel, reject roofing shingles and clean woody biomass: arsenic, cadmium, chromium, copper and lead. Non-chlorinated agricultural plastics: pesticides.
- For your baseline actual emissions, what was the annual heat input rate used?
- For the projected actual emissions, why did you use the average annual heat input rate for 5 years? Since this is lower than that used for the baseline, it looks like emissions decrease for all of the materials, but this is unrelated to the project. I recommend estimating projected actual emissions by using the same annual heat input rate, which more clearly presents emissions "changes" caused by the use of these alternative fuels.
- We will go through 50+ documents provided on the CD, but so far we have only found "qualitative" statements regarding emissions from firing these individual materials rather than "quantitative" emissions data. Although, the IPP "engineered fuel" shows promise and low emissions (from unspecified plants). Can you guide us to specific documents that will provide more "quantitative" emissions data (reasonable assurance) for firing each of the fuels?
- With regard to CCA-treated wood, is there a document you provided that discusses the fate of copper, chromium and arsenic in a pre-heater/pre-calciner kiln and emissions rates? For the CCA-treated wood, what are the expected concentrations of copper, chromium and arsenic in the materials that the plant would receive?
- Since Tarmac is a recognized world-wide cement company, can you provide any emissions data for firing these alt. materials in Tarmac kilns around the world?
- The CO emissions estimates ... as you mentioned in your email.
- Application states that the engineered fuel will consist of: one or more of the requested alt. materials and "other non-hazardous materials to meet a fuel design specification that allows Tarmac to ensure it will meet regulatory limits as discussed in the regulatory analysis section and quality control purposes". What are the "other" materials likely to consist of and are the "regulatory limits" the EPA "legitimacy criteria"?
- Will all of these materials be added to the pre-calciner portion of the kiln system? Will the mechanical feed dump to the pre-heater tower?
- Can you give us separate "ballpark" cost estimates on the mechanical feed, the pneumatic feed and other ancillary equipment for our write-up?
- The application requests permanent installation of the feed systems, but is also requests 90 to 180 days of shakedown for each initial firing of an alt. fuel. Typically, a shakedown period is necessary to ensure that the physical equipment is properly installed and functioning. I believe the application also states that the kiln will comply with all conditions in the Title V permit. So, what is the purpose of the shakedown for each material?

We're trying to get you our questions as quickly as possible, but are still reviewing the information in the attachments. We realize you will be out next week, but will you still be checking your email? If so, we will send additional questions as we find them.

Thanks!

Jeffery F. Koerner, Program Administrator
New Source Review Section, Bureau of Air Regulation
Division of Air Resource Management
Phone: 850-717-9083 / Fax: 850-717-9001
Email: Jeff.Koerner@dep.state.fl.us
Web: <http://www.dep.state.fl.us/air/>

REQUEST FOR ADDITIONAL INFORMATION

From: Muthiah P.E., Mallika [<mailto:MuthiM@miamidade.gov>]

Sent: Friday, May 06, 2011 1:11 PM

To: Koerner, Jeff; DeVore, Christy

Cc: Wong, Patrick (DERM); Garcia, Manuel (DERM); Radhay, Anthony (DERM); Gordon, Ray (DERM); Jordahl, Claire (DERM)

Subject: Miami-Dade County DERM Comments Regarding Titan America Application No.: 0250020-031-AC

Good afternoon Jeff/Christy,

DERM Air Quality Management Division (AQMD) staff have reviewed the Titan America, LLC Pennsuco Complex Alternative Fuels Project application that was recently submitted to FDEP for processing (Application No.: 0250020-031-AC). DERM AQMD staff have concerns regarding certain aspects of the proposal, including issuance of the permit as requested to expand the types of fuels that may be used in the cement kiln without conducting individual trial burns for each of the proposed alternative fuels.

The applicant requests FDEP to grant the authority to burn specific alternative fuels listed in the Project Description of the application section, alone or in any combination, in the cement kiln. The application proposes a three (3) year authorization by FDEP to install equipment to process and inject the alternative fuels in the back-end of the kiln system. In the application, Titan requests authorization for the below list of ten (10) materials that are referred to as alternative fuels, in addition to the currently authorized fuels (bituminous coal, used oil, No.6 oil, No. 2 oil, natural gas and whole tires):

1. Coal, non-specific
2. Engineered fuel
3. Tire-derived fuel (including tire fluff)
4. Agricultural film
5. Agricultural Byproducts
6. Carpet-derived fuel
7. Clean cellulosic biomass
8. Other cellulosic biomass
9. Shingles, manufacturer rejects
10. Pre-consumer paper

Some of the comments provided below are input for DEP's consideration while processing the permit application; others are items of additional information to request from Titan:

1. Without conducting a trial burn on each of the alternate fuel materials, the true impact on emissions, in particular with relation to the types and levels of air emissions, is unknown. It is our opinion that a construction permit similar to the one that would be issued to the CEMEX, Brooksville plant for trial burn of multiple alternate fuels would give a better perspective on the emissions and issues at the Titan plant when using the proposed alternative fuels. Furthermore, issuing a permanent permit (as opposed to a permit to conduct trial burns for the alternate fuels) at this time does not allow the department to make changes based on measured emissions impacts during actual burning of the alternate fuels.
2. The application provides a generic description of each of the proposed alternative fuel materials with a general discussion of constituents and values for moisture and heat content. However, the estimated emissions for each of the proposed alternative fuels uses one of two emission factors, i.e., either the emissions factor for coal or for whole tires which are the fuels currently burned at the Titan cement plant. Specifically, the emissions factor for the coal burned at Titan was used to estimate emissions for the following proposed alternative fuels - coal (non-specific), engineered fuel, agricultural byproducts, carpet-derived fuel, clean cellulosic biomass, "other" cellulosic biomass and pre-consumer paper. Also, the emissions factor for whole tires burned at Titan was used to estimate emissions for shingles (manufacturer rejects), agricultural film and tire-derived fuel (including tire fluff). It is our opinion that using emission factors for coal or whole tires in place of site-specific, real test burn results is not an appropriate or accurate surrogate method of quantifying emissions while burning the proposed alternate fuels, and does not provide reasonable assurance that use of the proposed alternative fuels does not result in a significant net emissions increase.
3. It is our understanding that for PSD applicability purposes, past actual emissions must be compared with future actual emissions. It is our opinion that obtaining specific emissions data such as emission factors, etc., during a trial burn is more accurate and reliable than simply using assumed and unverified emission factors for certain alternative fuels when

REQUEST FOR ADDITIONAL INFORMATION

calculating future actual emissions. The DERM therefore supports requiring initial trial burn(s) with the new alternative fuels that are being proposed in order to have reasonable assurance.

4. The applicant requests authorization for on-site processing of the alternative fuels including grinding up to 75,000 tons per year although the "grinding of any fuel materials is not expected to be needed as the fuel supplier will be required to deliver sized materials". The applicant states that alternative fuel materials, up to 200,000 tons per year, are to be supplied in a manner suitable for mechanical and/or pneumatic injection into the pyroprocessing system, and requests authorization to grind up to 75,000 tons per year. That amount accounts for almost 40% of the 200,000 tons per year total being proposed, and contrary to the quoted statement from Titan's application, is a significant amount of grinding. DERM does not see the need for authorization to grind 75,000 tons per year which creates another source of air emissions at the facility. DERM has concerns regarding the increased dust and fugitive emissions that would result from the proposed on-site grinding.
5. DERM has concerns regarding the potential increase of toxic air emissions that would result from the processing of alternative fuels such as engineered fuels, carpet derived fuels and other biomass fuels. For example, the applicant describes the proposed "other cellulosic biomass" as including "... copper-chromium-arsenic (CCA) treated wood, creosote-treated wood, construction and demolition debris not meeting the definition of clean C&D wood, particle board ...". Also, pressure treated wood, railroad ties and telephone poles may be creosote treated wood, which contains up to 15% creosote, a known carcinogen. The applicant may also accept pentachlorophenol treated wood or biomass treated with other chlorinated compounds. Due to these concerns DERM would request that Titan work with their vendors and suppliers to develop a protocol to eliminate all treated wood. Burning these treated lumber materials raises the issue of the potential for toxic emissions.
6. The application states that the design capacity of both the mechanical and the pneumatic feed systems are expected to be 15 tons per hour. In addition, the applicant requests authorization to add the proposed alternative fuels "... alone or in any combination." DERM has concerns related to the alternative fuel feed rate and compliance testing with respect to the requirement to test under representative operating conditions. Without a trial burn to obtain a maximum rate at which an alternative fuel can be injected, it will not be possible to establish representative conditions for compliance testing purposes.
7. DERM proposes to include permit conditions requiring periodic reports on the status of the project, to be submitted to the compliance authority, to include equipment installation, alternate fuels delivered, upcoming co-firings, etc.
8. Additionally, conditions requiring systematic sampling of the various alternative fuels should be included in the permit.
9. DERM proposes to include a permit condition such as "The permittee shall not exceed any permitted emissions limit, even during the 90 to 180 day shakeout period" should be included in the permit.
10. Titan has numerical emissions limits for PM, PM10, SO₂, NO_x, CO, VOC, mercury and Dioxin/Furans, with existing CEMS for all these pollutants with the exception of PM, mercury and D/Fs. Yet, the applicant states "... if co-firing results in emissions exceeding permit limits, the co-firing will immediately cease". The application does not explain how emissions of PM, Hg or D/Fs are to be monitored such that any exceedances of those pollutant emissions would be identified in real time, and co-firing immediately ceased. This information is needed.
11. Detailed information about the chemical composition of the various alternative fuel types to have a better understanding of the materials to be burned is required.
12. Information explaining the screening process for rejection of any shipment of alternative fuels for quality assurance purposes, for example a list of unacceptable materials, procedures to identify and dispose such materials, is needed.
13. A plan for introducing the proposed alternate fuels, e.g., whether each fuel be introduced individually or in combination with another alternative fuel, is needed.
14. An explanation of the meaning and intent of the "90 to 180 dayshakeout period for each fuel" is needed.
15. Detailed information as to where in the process each of the proposed alternative fuels will be introduced, the method of injection, the temperature range in that area, and the anticipated mixture of alternative fuels that will be burned at any given time independently or simultaneously with each other is needed.

Information regarding the proposed maximum feed rate for each alternative fuel is needed, for example, as included in the CEMEX, Brooksville plant pre-draft permit.

REQUEST FOR ADDITIONAL INFORMATION

If you have any questions regarding our comments, please contact me at (305) 3726921.

Thank you.

Mallika
Mallika Muthiah, P.E., Chief
Air Facilities Section
Miami-Dade County Environmental Resources Management
Tel.: 305-372-6925
Fax: 305-372-6954
www.miamidade.gov/DERM
"Delivering Excellence Every Day"

Livingston, Sylvia

From: Livingston, Sylvia
Sent: Thursday, May 12, 2011 4:01 PM
To: 'atowndsend@titanamerica.com'
Cc: 'mlee@kooglerassociates.com'; 'muthim@miamidade.gov'; Hoefert, Lee; 'forney.kathleen@epa.gov'; 'abrams.heather@epa.gov'; 'langston.david@epa.gov'; Gibson, Victoria; DeVore, Christy; Koerner, Jeff; Walker, Elizabeth (AIR)
Subject: Request for Additional Information: Tarmac America, LLC - Pennsuco Cement Plant (0250020-031-AC)
Attachments: RAI 0250020-031-AC.pdf

Tracking:	Recipient	Delivery	Read
	'atowndsend@titanamerica.com'		
	'mlee@kooglerassociates.com'		
	'muthim@miamidade.gov'		
	Hoefert, Lee	Delivered: 5/12/2011 4:01 PM	
	'forney.kathleen@epa.gov'		
	'abrams.heather@epa.gov'		
	'langston.david@epa.gov'		
	Gibson, Victoria	Delivered: 5/12/2011 4:01 PM	
	DeVore, Christy	Delivered: 5/12/2011 4:01 PM	Read: 5/12/2011 4:02 PM
	Koerner, Jeff	Delivered: 5/12/2011 4:01 PM	Read: 5/12/2011 4:43 PM
	Walker, Elizabeth (AIR)	Delivered: 5/12/2011 4:01 PM	

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Thank you,

Sylvia Livingston
Division of Air Resource Management (DARM)
Department of Environmental Protection
850/717-9043 (New Phone)
sylvia.livingston@dep.state.fl.us

Livingston, Sylvia

From: Townsend AI [atownsend@titanamerica.com]
Sent: Friday, May 13, 2011 8:21 AM
To: Livingston, Sylvia
Cc: mlee@kooglerassociates.com; muthim@miamidade.gov; Hoefert, Lee; forney.kathleen@epa.gov; abrams.heather@epa.gov; langston.david@epa.gov; Gibson, Victoria; DeVore, Christy; Koerner, Jeff; Walker, Elizabeth (AIR)
Subject: Re: Request for Additional Information: Tarmac America, LLC - Pennsuco Cement Plant (0250020-031-AC)

I have received the RAI. Thank you!

From: Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]
Sent: Thursday, May 12, 2011 04:00 PM
To: Townsend AI
Cc: mlee@kooglerassociates.com <mlee@kooglerassociates.com>; muthim@miamidade.gov <muthim@miamidade.gov>; Hoefert, Lee <Lee.Hoefert@dep.state.fl.us>; forney.kathleen@epa.gov <forney.kathleen@epa.gov>; abrams.heather@epa.gov <abrams.heather@epa.gov>; langston.david@epa.gov <langston.david@epa.gov>; Gibson, Victoria <Victoria.Gibson@dep.state.fl.us>; DeVore, Christy <Christy.DeVore@dep.state.fl.us>; Koerner, Jeff <Jeff.Koerner@dep.state.fl.us>; Walker, Elizabeth (AIR) <Elizabeth.Walker@dep.state.fl.us>
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Thank you,

Sylvia Livingston
Division of Air Resource Management (DARM)
Department of Environmental Protection
850/717-9043 (New Phone)
sylvia.livingston@dep.state.fl.us

Livingston, Sylvia

From: Max Lee [mlee@kooglerassociates.com]
Sent: Friday, May 13, 2011 12:38 PM
To: 'Townsend Al'; Livingston, Sylvia
Cc: muthim@miamidade.gov; Hoefert, Lee; forney.kathleen@epa.gov; abrams.heather@epa.gov; langston.david@epa.gov; Gibson, Victoria; DeVore, Christy; Koerner, Jeff; Walker, Elizabeth (AIR)
Subject: RE: Request for Additional Information: Tarmac America, LLC - Pennsuco Cement Plant (0250020-031-AC)

received.

Thanks Sylvia.

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Sent: Friday, May 13, 2011 8:21 AM
To: Sylvia.Livingston@dep.state.fl.us
Cc: mlee@kooglerassociates.com; muthim@miamidade.gov; Lee.Hoefert@dep.state.fl.us; forney.kathleen@epa.gov; abrams.heather@epa.gov; langston.david@epa.gov; Victoria.Gibson@dep.state.fl.us; Christy.DeVore@dep.state.fl.us; Jeff.Koerner@dep.state.fl.us; Elizabeth.Walker@dep.state.fl.us
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Cc: mlee@kooglerassociates.com <mlee@kooglerassociates.com>; muthim@miamidade.gov <muthim@miamidade.gov>; Hoefert, Lee <Lee.Hoefert@dep.state.fl.us>; forney.kathleen@epa.gov <forney.kathleen@epa.gov>; abrams.heather@epa.gov <abrams.heather@epa.gov>; langston.david@epa.gov <langston.david@epa.gov>; Gibson, Victoria <Victoria.Gibson@dep.state.fl.us>; DeVore, Christy <Christy.DeVore@dep.state.fl.us>; Koerner, Jeff <Jeff.Koerner@dep.state.fl.us>; Walker, Elizabeth (AIR) <Elizabeth.Walker@dep.state.fl.us>
Subject: Request for Additional Information: Tarmac America, LLC - Pennsuco Cement Plant (0250020-031-AC)

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Livingston, Sylvia

From: Langston.David@epamail.epa.gov
Sent: Monday, May 16, 2011 8:03 AM
To: Livingston, Sylvia
Subject: Re: Request for Additional Information: Tarmac America, LLC - Pennsuco Cement Plant (0250020-031-AC)

David Langston
Sr. Environmental Engineer
RCRA Materials Management Section
404-562-8478

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