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JAN 25 2012

DIVISION OF AIR
RESOURCE MANAGEMENT

January 23, 2012

Ms. Christy DeVore, P.E.
Professional Engineer II
Florida Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation
New Source Review
2600 Blair Stone Road, MS #5505
Tallahassee, FL 32399-2400

Re: Proposed Permit No. 0530021-039-AC, Proof of Publication – Notice of Proposed Construction Permit; Kiln No. 2- Kiln No. 2, CEMEX Construction Materials Florida, LLC, Long-Term Alternative Fuels Application

Dear: Ms. DeVore:

Please find enclosed the original affidavit, with article, as proof of publication for the proposed permit/facility mentioned above. The article was published in the legal section of the Tampa Bay Times on January 12, 2012.

Should you have any questions and/or comments concerning this submittal or require additional information, please contact me at 352-799-7881 or gtownsend@cemexusa.com.

Respectfully,

George Townsend
Environmental Manager

pc: James S. Daniel, Plant Manager
Max Lee, P.E., Koogler & Associates

D:\Documents and Settings\gtownsend\My Documents\Brooksville South\Kiln No.2 Long-Term Alt. Fuels Application_050023039-AC\Proof of Publicaiaon Submittal 039-AC 01232012.doc

Brooksville South Plant

10311 Cement Plant Rd, Brooksville, FL 34601. USA, (352) 799-7881, Fax (352) 799-6088

Tampa Bay Times

Published Daily

St. Petersburg, Pinellas County, Florida

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JAN 25 2012

STATE OF FLORIDA
COUNTY OF Pinellas

} s.s.

DIVISION OF AIR RESOURCE MANAGEMENT

NOTICE OF APPLICATION

Florida Department of Environmental Protection
Resource Management, Office of Permitting and Compliance
Project No. 0530021-039-AC
CEMEX Construction Materials Florida, LLC, Brooksville South Cement Plant
Hernando County, Florida

Before the undersigned authority personally appeared **D. Almeida** who on oath says that he/she is **Legal Clerk** of the **Tampa Bay Times** a daily newspaper published at St. Petersburg, in Pinellas County, Florida; that the attached copy of advertisement, being a **Legal Notice** in the matter **RE: Draft/Proposed Permit 0530021-039-AC** was published in said newspaper in the issues of **Classified Hernando & Citrus**, 1/12/2012.

Affiant further says the said **Tampa Bay Times** is a newspaper published at St. Petersburg, in said Pinellas County, Florida and that the said newspaper has heretofore been continuously published in said Pinellas County, Florida, each day and has been entered as second class mail matter at the post office in St. Petersburg, in said Pinellas County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement, and affiant further says that he /she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Signature of Affiant

Sworn to and subscribed before me
this 12th day of **January** A.D.2012

Signature of Notary Public



Personally known or produced identification _____

Type of identification produced _____

Applicant: The applicant for this project is CEMEX Construction Materials Florida, LLC. The applicant's authorized representative and mailing address is: Mr. Jim Daniel, Plant Manager, CEMEX Construction Materials Florida, LLC, Brooksville South Cement Plant, 10311 Cement Plant Road, Brooksville, Florida 34601.

Facility Location: CEMEX Construction Materials Florida, LLC operates the existing Brooksville South Cement Plant, which is located in Hernando County at 10311 Cement Plant Road in Brooksville, Florida. The Department of Environmental Protection received an application for an air construction permit from CEMEX Construction Materials Florida, LLC. The application requests authorization to: construct mechanical and pneumatic material handling systems for introduction of alternative fuels into the existing preheater/precalciner kiln system and replace the main kiln burner to allow introduction of a variety of fuels to the Kiln No. 2 System. These modifications will not increase production capacity. The applicant does not request the relaxation of any existing permit limit or applicable regulatory requirements for Portland cement plants.

The cement kiln is currently authorized to fire natural gas, distillate fuel oil, on-specification used oil, coal, petroleum coke, propane, fly ash, and whole tires. The plant is also permitted for trial burning of a variety of non-hazardous alternative fuels. Based on newly-developed available information regarding the firing of non-hazardous alternative fuels in cement kilns, the plant requests permanent authorization to fire the non-hazardous alternative fuels, identified below. The applicant proposes to use these alternative fuels for cement production to reduce greenhouse gases and its reliance on fossil fuels, such as coal. The project includes electric or diesel-powered shredding and screening equipment to further process these materials onsite as necessary.

The plant requests authorization to fire the following non-hazardous alternative fuels in any combination in the existing cement Kiln No. 2: tire-derived fuel; plastics; roofing materials; agricultural biogenic materials (e.g., peanut hulls, rice hulls, corn husks, citrus peels, cotton gin byproducts, animal bedding, etc.); untreated cellulosic biomass (e.g., green wood, forest thinnings, sawdust, trees trimmings, clean woody land clearing debris and clean construction and demolition (C&D) wood); treated cellulosic biomass (e.g. CCA-treated wood, creosote-treated wood, C&D debris not meeting the definition of clean C&D wood, plywood, particle board, medium density fiberboard, oriented strand board, laminated beams, finger-jointed trim and sheet goods); carpet-derived fuels and engineered fuels. Engineered fuels (EF) is a non-hazardous replacement for fossil fuels. EF is engineered largely from the above materials and could consist of animal meal, automotive manufacturing byproducts, clean-up debris from natural disasters, processed municipal solid waste, dried/sanitized biosolids, paint filter cake, hospital materials (non-infectious), pharmaceuticals (expired prescriptions), cosmetics, and confiscated narcotics.

The modified kiln system will continue to meet all current emission limits when alternative fuels are used. Actual emissions from the existing cement kiln are continuously monitored for the following pollutants: carbon monoxide (CO), nitrogen oxides (NOX), sulfur dioxide (SO2), and volatile organic compounds (VOC) measured as total hydrocarbons (THC). There is also a continuous monitor for measuring the stack opacity. The applicant will continue to use all required monitoring systems to ensure compliance with existing and enforceable permit requirements when firing alternative fuels. As required by permit, mercury emissions will be determined based on material balance and particulate matter emissions will be determined by stack test.

The initial application was received on December 19, 2011. The application is under review by the Department and is available for public inspection during normal business hours from 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the following physical office location:

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Department of Environmental Protection Division of Air Resource Management Office of Permitting and Compliance 111 South Magnolia Drive, Suite 4 Tallahassee, Florida 32399-2400 Telephone: 850/717-9000 Fax: 850/717-9001 | Department of Environmental Protection Southwest District Office Air Program 13051 N. Telecom Parkway Temple Terrace, FL 33637-0926 Phone: (813) 632-7600 Fax: (813) 448-4362 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

The application can be accessed electronically at the Department's website at:
<http://arm-permit2k.dep.state.fl.us/psd/0530021/00006804.pdf>

Published in the Tampa Bay Times January 12, 2012

(003671035)



4014 NW 13th STREET
GAINESVILLE, FL 32609-1923
352/377-5822 ■ FAX/377-7158

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FEB 09 2012

DIVISION OF AIR
RESOURCE MANAGEMENT

February 8, 2012

Via E-Mail and U.S. Mail

Jeff Koerner
Permitting/Compliance Administrator
Division of Air Resource Management
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399
jeff.koerner@dep.state.fl.us

**RE: Request for Additional Information letter dated January 18, 2012
CEMEX Construction Materials Florida, LLC
Brooksville South Cement Plant
Project No. 0530021-039-AC**

Dear Mr. Koerner:

Please find enclosed the response information to your Request for Additional Information (RAI) letter dated January 18, 2012 regarding the permit application for the installation of equipment necessary for the preparation and injection of alternative fuel materials at the CEMEX Construction Materials Florida, LLC Brooksville South cement plant submitted to your office via email on December 16, 2011 and submitted in hardcopy. In overview of this project, CEMEX intends to carefully use alternative fuels, not waste, to replace fossil fuels. While these materials come from a variety of resources, CEMEX will not incinerate waste. This project mirrors many projects throughout the developed world (e.g., European Union, Canada, Australia) to reduce the consumption of fossil fuels. CEMEX is fully committed to this project and will provide any and all information needed for approval.

Brooksville South CEMEX puts forth the following points that demonstrate the value of this project to the State of Florida and the environment. The project provides the following benefits:

1. Increases the availability and stability of energy sources through the use of locally generated, processed, and transported energy sources in comparison to conventional fuels (i.e., coal which can be and is transported from around the world to this plant and other cement plants).
2. Promotion of related recycling and recovery business activities (i.e., employment, taxable income) in the State.

3. Reduction of greenhouse gas emissions by re-using and reducing landfilled biogenic material, reducing source material transportation, and reducing methane emissions from landfilled materials.
4. Increased demand for recovered materials as fuel encourages recovery versus landfilling. This matches the goals of the State efforts to increase waste diversion for re-use or recycling,¹
5. Promotion of a more diverse energy supply which improves the viability of CEMEX and the alternative fuels market suppliers.

Most important, our application provides data that these fuels will not significantly change emissions. To this point, EPA states on May 17, 2011 in the Federal Register, "...burning alternative fuels does not appreciably affect cement kiln HAP's emissions." The practice of using alternative fuels in cement kilns is well documented for over 40 years. Both U.S. EPA and European Union continue to promote the use of alternative fuels for cement kiln in preference to fossil fuels.^{2,3} A Portland cement plant can only produce a marketable product through efficient thermal combustion of alternative fuels in a cement kiln that not only utilizes materials for their heat content that would otherwise have been landfilled, but the ash also supplies essential ingredients (silica, aluminum, calcium, iron, etc.) that becomes a component of the final product (cement) and must be carefully monitored. The use of alternative materials in cement production can safely eliminate a substantial amount of potentially landfilled waste, as well as reduce environmental impacts associated with mining and transport of fossil fuels. Similarly, greenhouse gas emissions are reduced by eliminating landfilling, which generates methane gas as a byproduct of anaerobic decomposition. The greenhouse gas potential of methane is 21 times greater than that of the carbon dioxide produced during combustion.

CEMEX views its effort to promote the beneficial reuse of these recovered materials in cement production to be in concert with the guidance of the EPA⁴ and European IPPC Bureau⁵. The World Business Council for Sustainable Development ranks the United States as 13th in the list of countries replacing conventional fuels with alternative fuels⁶. In 2010, German cement plants replaced conventional fuels with alternative fuels by 61 percent⁷ on average. Thus, fossil fuels in countries such as Germany are alternative fuels.

¹ <http://www.dep.state.fl.us/waste/recyclinggoal75/default.htm> (last visited April 18, 2011)

² EPA Cement Sector Report, Trends in Beneficial Use of Alternative Fuels and Raw Materials. October 2008.

³ Cement, Lime and Magnesium Oxide Manufacturing Facilities, May 2010 <http://eippcb.jrc.ec.europa.eu>

⁴ International, I. *Trends in Beneficial Use of Alternative Fuels and Raw Materials*. 2008; Available from: <http://www.epa.gov/sectors/pdf/cement-sector-report.pdf>.

⁵ Cement, Lime and Magnesium Oxide Manufacturing Facilities, May 2010, Table 4.16, <http://eippcb.jrc.ec.europa.eu>

⁶ Development, W.B.C.f.S., *Guidelines for the Selection and Use of Fuels and Raw Materials in the Cement Manufacturing Process*, 2005, <http://www.wbcds.org/DocRoot/Vjft3qGjo1v6HREH7jM6/tf2-guidelines.pdf> (last visited April 2, 2011)

⁷ Verein Deutsche Zementindustrie, Environmental Data of the German Cement Industry 2009, http://www.vdz-online.de/uploads/media/Environmental_data_2010.pdf (last visited December 2, 2011)

Please feel free to contact me at (352) 377-5822 or mlee@koooglerassociates.com if you have any questions regarding this submittal. I sincerely appreciate your time and consideration for this innovative project.

Regards,



Max Lee, PhD., P.E.

KOOGLER AND ASSOCIATES, INC.

cc: Lillian F. DePrimo, Director, Environmental
James S. Daniel, Plant Manager
George Townsend, Construction Materials Florida, LLC (gtownsend@cemexusa.com)



1. Please provide the certified analysis of the off-specification used oil fired at the Miami Cement Plant. Provide the total annual amount of off-specification used oil fired over the past five years.

The CEMEX Miami cement plant is permitted through the Title V air permit to use off-specification fuel oil. The facility obtains off-spec fuel oil from various vendors. Off-spec fuel oil that is received is typically deemed off-specification due to its lower flash point (< 100 °F) which is a result of gasoline contamination in fuel oil. The amount annual usages from 2007 to 2011 are provided in Attachment 1 along with CEMEX internal analysis from the shipment on January 15, 2012. As well, vendor material analysis are provided in Attachment 1. The CEMEX Miami cement plant is compliant with the other regulatory programs related to off-spec used oil.

2. Please describe what animal meal is. Provide further information on the animal meal, including any classifications (ex. 1, 2 or 3), heating value and metals content.

Animal meal is also known as meat and bone meal (MBM) which is derived from animal rendering facilities. This material may then be wasted to landfills⁸. Several alternative uses of this material exist such as the utilization in cement kilns and the co-combustion in industrial power plants⁹. MBM is considered a carbon/CO₂ neutral fuel. It can reduce the amount of greenhouse gases emitted from burning of fossil fuels at the Brooksville South cement plant. In fact, if 40% of the coal fed to a rotary kiln was replaced on a long term basis, the total annual CO₂ emissions from the cement plant could be reduced near 10%². As discussed in the application, air pollutant emissions from such material are expected to be similar to fossil fuels.

Table 1 below presents typical parameters and metals content of MBM. In comparison, data are provided in Table 2 that show the potential range of similar parameters/constituents within coal.

Table 1. Characteristics of Animal Meal

| reference | LHV <i>mmBtu/ton</i> | Density <i>kg/m³</i> | Moisture <i>%</i> | Ash <i>%</i> | Sulfur <i>%</i> | Fluoride <i>%</i> | Chlorine <i>%</i> | Volatile <i>%</i> |
|---------------|-------------------------|------------------------------------|----------------------|-----------------|--------------------|----------------------|----------------------|----------------------|
| ¹⁰ | 15.9 | 720 | 4 | 27.2 | -- | -- | -- | 60.8 |
| ¹¹ | 12.4 | -- | 6 | 20 | 0.4 | -- | 0.3 | 64 |
| ¹² | 11.2 | -- | 6.8 | 34.4 | 0.7 | -- | 0.26 | 32.7 |
| ¹³ | 16.0 | -- | -- | 15.3 | 0.63 | 0.01 | 0.95 | -- |

LHV- Lower Heating Value

| | Hg <i>ppm</i> | As <i>ppm</i> | Cd <i>ppm</i> | Cr <i>ppm</i> | Pb <i>ppm</i> | Mn <i>ppm</i> | Ni <i>ppm</i> | Co <i>Ppm</i> |
|---------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| ¹⁰ | -- | -- | -- | -- | -- | -- | -- | -- |
| ¹¹ | -- | -- | -- | 1 | 10 | 8 | 0 | 2 |
| ¹² | <0.003 | <25 | <5 | <5 | <5 | <5 | <5 | -- |

⁸ http://en.wikipedia.org/wiki/Meat_and_bone_meal

⁹ Fryda, L., Panopoulos, K., Vourliotis, P., Kakaras, E., Pavlidou, E. "Meat and bone meal as secondary fuel in fluidized bed combustion." Proceedings of the Combustion Institute 31 (2007) 2829-2837

¹⁰ Ariyaratne, W.K.H., Melaen, M.C., Eine, K., Tokheim, L.A. "Meat and Bone Meal as a Renewable Energy Source in Cement Kilns: Investigation of Optimum Feeding Rates." International Conference on Renewable Energies and Power Quality (2010)

¹¹ Senneca, O., Salatino, P., Chirone, R. "Co-Firing of Coal and Meat and Bone Meal." Third European Combustion Meeting ECM (2007)

¹² Gulyurtly, I., Boavida, D., Abelha, P., Lopes, M.H., Cabrita, I. "Co-combustion of coal and meat and bone meal." Fuel 84 (2005) 2137-2148

¹³ KEMA: Milieueffectrapport, bijstokensecundairebrandstoffen in de CentraleMaasvlakte, KEMA, Arnhem, 9856650-KST/MVC 98-3049 (1999).

| | | | | | | | | |
|----|----|-----|----|-----|-----|--|--|--|
| 13 | -- | 6.3 | -- | 6.5 | 2.7 | | | |
|----|----|-----|----|-----|-----|--|--|--|

Table 2. Upper range of characteristics of world-wide coal.

| | | | | | | | | |
|----|--|--|--|--|--------------------|-------------------------------|-------------------------------|--|
| | | | | | Sulfur % | Fluoride <i>ppm</i> | Chlorine <i>ppm</i> | |
| 14 | | | | | 17.3 | 4,900 | 8,800 | |

| | | | | | | | | |
|----|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| | Hg <i>Ppm</i> | As <i>ppm</i> | Cd <i>ppm</i> | Cr <i>ppm</i> | Pb <i>ppm</i> | Mn <i>ppm</i> | Ni <i>ppm</i> | Co <i>Ppm</i> |
| 14 | 63 | 2,200 | 160 | 200 | 1,900 | 2500 | 280 | 180 |

3.The application requests authorization to fire non-infectious “hospital materials”. Are “hospital materials” treated hospital wastes? Describe the treatment process. Provide a discussion of the applicability of NSPS Subpart Ec in 40 CFR 60 for Hospital/Medical/Infectious Waste Incinerators.

NSPS Subpart Ec does not apply to the CEMEX Brooksville South cement plant. Further, CEMEX will not accept untreated hospital waste at the Brooksville South cement plant and will only use sorted, processed, and treated hospital materials that are not waste.

Any fuel materials derived from hospitals will be processed to remove unwanted materials and enhance the homogeneity and the consistency of the fuel. These materials will be a minor component of an engineered fuel composition and must meet internal composition and properties criteria to emissions, product quality, and kiln structure integrity impacts (e.g., low chlorine content). For a number of other concerns, and as noted in the notice of application, requested FDEP to specifically note in the notice of application that CEMEX will not use hospital materials or waste that have been deemed as infectious. CEMEX is not in the business of waste disposal. CEMEX does view that certain materials that are derive from hospitals which do meet the criteria to be used as alternative fuels should not be wasted and landfilled but should be harnessed in a controlled and regulated environment. The materials must be treated and processed such that the material is not a health hazard and meets all regulatory limitations. The material must be sorted for materials with valuable heat content, low levels of unwanted constituents (e.g., chlorine and sulfur, volatile metals, alkalis). Materials that meet these criteria are typically non-chlorinated plastics.

At the time of shipment to the facility, these materials will have been processed and blended (typically in very minor quantities) to a specified engineered fuel and will not be treated nor considered as wastes. Instead, the engineered fuel is a commodity and it will be treated as such. These materials will be handled and stored as fuel materials to meet all permitting requirements.

NSPS Subpart Ec in 40 CFR 60.50(g) states that “Cement kilns firing hospital waste and/or medical/infectious waste are not subject to this subpart.” Such cement kilns, like the Brooksville South cement plant, are regulated under the NSPS Subpart F and NESHAP Subpart LLL.

As noted in the permit, EPA states on May 17, 2011 in the Federal Register, “...burning alternative fuels (whether classified as solid wastes or not) does not appreciably affect cement kiln HAP’s

¹⁴USGS Coal Database- <http://energy.er.usgs.gov/coalqual.htm>

emissions.”¹⁵ Such plastic-based materials are materials that EPA reviewed in making this statement.

4. Please provide applicability discussion for bio-solids and sewage sludge incineration with regard to NESHAP Subpart E in 40 CFR 61. Please provide a representative analysis for bio-solids (heating value and metals).

CEMEX will not incinerate sludge waste. CEMEX will only use processed and dried sewage sludge that results from a sludge drying process. These material are considered biosolids. If such a material is to be used it will be a minor portion of an engineered fuel. A typical source of such material is NEFCO (www.NEFCOBiosolids.com) which produces material used for farming land application. It should be noted that due to recent land application issues, this material will likely be landfilled in the near future. Yet, this material has valuable heating value and composition that is equivalent to fossil fuels. And unlike boilers or other combustors, precalciner cement kilns well absorb nearly all metals (except for volatile metals such as mercury) as discussed in depth in the application. On that note, the Department brings forth an issue that should be addressed regarding mercury emissions and how the NESHAP Subpart E compares to current emission limitations on the Brooksville South cement plant.

NESHAP Subpart E (40 CFR 61) is applicable to those stationary sources which process mercury ore to recover mercury, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and incinerate or dry wastewater treatment plant sludge. This subpart E limits mercury emissions to the atmosphere to 7.1 pounds per day. Based on operation of 365 days this limit is equivalent to emissions of up to 2,591.5 pounds per year. already must carefully monitor mercury content of fuels. Biosolids having high mercury content will be avoided at the plant as the current limits on mercury emissions forces CEMEX to only use materials having low mercury content similar to currently used raw materials and fossil fuels. Furthermore, the NESHAP subpart LLL will require a continuous emissions monitor of mercury in 2013.

In our review of this regulation and other regulations of the Portland cement industry, there are several factors which ensure that this facility should not be duplicatively regulated under this older NESHAP but instead remain subject to NESHAP subpart LLL and current Title V air permit limits. The Brooksville South cement plant is limited to far lower limits of mercury emissions under the current Title V air permit.

FDEP permits state that when there are duplicative regulations, the most stringent conditions apply. For example, the CEMEX Brooksville South cement plant Title V permit states:

F.1. Exemption From Multiple Federal Requirements. Portland Cement Line 1 is an affected facility subject to the provisions of 40 CFR 63, Subpart LLL. If an affected facility subject to 40 CFR 63, Subpart LLL has a different emission limit or requirement for the same pollutant under another regulation in title 40 of this chapter, the owner or operator of the affected facility must comply with the most stringent emission limit or requirement and is exempt from the less stringent requirement.

[Rule 62-204.800, F.A.C. and 40 CFR 63.1356]

¹⁵Fed. Reg. Vol 76. No. 95, page 28322

The Brooksville South cement plant current Title V permit limits mercury annual emissions to 122 pounds per year, measured by mass balance and assuming 100 percent of the input is emitted. Thus, the Title V permit limits the Brooksville South cement plant to less than 5 percent of the NESHAP subpart E (i.e, current limit on mercury is 21 times more stringent than NESHAP subpart E). Given the limitations of the current Title V permit and the fact that this permit application will not violate the constraints of the current Title V permit, the sampling requirements of NESHAP Subpart E are guaranteed to be met at least once per year (satisfying the requirements of the rule).

Furthermore, NESHAP subpart E was developed for the purpose of regulating disposal incinerators of untreated wastewater treatment plant sludge. As mentioned above; CEMEX intends to only receive treated and processed sludge material. The material will be a minor component of an engineered fuel composition and must meet internal composition and properties criteria to emissions, product quality, and kiln structure integrity impacts (e.g., low chlorine content). CEMEX does view that these materials derived from sludges which do meet the criteria to be used as alternative fuels should not be wasted and landfilled but should be harnessed in a controlled and regulated environment. The materials must be treated and processed such that the material is not a health hazard and meets all regulatory limitations. The engineered fuel must be a sorted composite of materials that mimic fossil fuels with valuable heat content, low levels of unwanted constituents (e.g., low chlorine and sulfur, volatile metals, alkalis).

At the time of shipment to the facility, these materials will be processed and treated and a minor component of a specified engineered fuel. Any waste material that has not been treated as such will not be accepted. Engineered fuel is a commodity and it will be treated as such. These materials will be handled and stored as fuel materials to meet all permitting requirements.

The following table provides a listing of the constituents in biosolids which can be compared to fossil fuels in Table 2.

Table 3. Characteristics of Biosolids

| | LHV <i>mmBtu/ton</i> | Density <i>kg/m³</i> | Moisture <i>%</i> | Ash <i>%</i> | Sulfur <i>%</i> | Fluoride <i>%</i> | Chlorine <i>%</i> | Volatile <i>%</i> |
|---------------|--------------------------------|-------------------------------------------|-----------------------------|------------------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|
| ¹⁶ | 12.9 | -- | 70-80 | 32.4 | 0 | -- | -- | 67.6 |
| ¹⁷ | +-- | 860.6 | -- | -- | -- | -- | -- | -- |
| ¹⁸ | -- | -- | -- | -- | -- | -- | -- | -- |
| ¹⁹ | -- | -- | -- | -- | -- | -- | -- | -- |
| ²⁰ | 9.8 | -- | -- | 48 | 1.22 | 0.026 | 0.078 | -- |

¹⁶Houdkova, L., Boran, J., Ucekaj, V., Elsaber, T., Stehlik, P. "Thermal Processing of Sewage Sludge." Applied Thermal Engineering 28 (2008) 2083-2088

¹⁷LinGroBiosolids Cake – A Product of The Lincoln Wastewater System. http://lancaster.unl.edu/enviro/BiosolidNutrientMetals_LNK.pdf

¹⁸Werther, J., Ogada, T. "Sewage Sludge Combustion." Process in Energy and Combustion Science 25 (1999) 55-116

¹⁹Amand, L.E., Leckner, B. "Metal emissions from co-combustion of sewage sludge and coal/wood in fluidized bed." Fuel 83 (2004) 1803-1821

²⁰K. R. G. Hein: Combined combustion of biomass/sewage sludge and coals; Clean Coal Technology Programme 1992-1994, Stuttgart, IVD, ISBN 3-928123-16-5 (1994).

| | Hg <i>ppm</i> | As <i>ppm</i> | Cd <i>ppm</i> | Cr <i>ppm</i> | Cu <i>ppm</i> | Pb <i>ppm</i> | Tl <i>ppm</i> |
|----|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 8 | 2.45 | -- | 2 | 37.5 | -- | 54 | <10 |
| 9 | 0.01 | 18.25 | 4.06 | 33.82 | 607.9 | 38.83 | -- |
| 10 | 2.7 | -- | 3.8 | 91 | 330 | 159 | -- |
| 11 | 1.2 | 5.5 | 1.4 | 39 | 430 | 42 | 0.16 |
| 12 | -- | -- | -- | -- | -- | -- | -- |

Attachment 1

Off-specification Used Oil information

Below is a sample analysis of an off spec load of fuel performed by the Environmental Laboratory at the CEMEX cement plant in Miami, Florida.

The total amount of off-spec oil processed during the past 5 years (2007 - 2011) is approximately 150,000 gallons.

85,000 gallons in 2011

65,000 gallons in 2009

Materials Analysis Report

| | | |
|------------------|------------|----------|
| REPORT DATE | 1/15/2012 | |
| SAMPLE DATE | 12/19/2011 | |
| SAMPLE SOURCE | CBI | OFF SPEC |
| REFERENCE | | FUEL |
| C.E.S. ID NUMBER | 32701 | |
| SAMPLE TYPE | USED OIL | |

| PARAMETER | RESULT | UNITS | METHOD | D. LIMITS | ANALYSIS DATE | ANAL. INITIAL |
|----------------|--------|-----------|----------------|-----------|---------------|---------------|
| Flashpoint | 75 | Deg. F | 1010 | 75 | 1/9/2012 | AP |
| Arsenic | BDL | mg/kg | 7060 | 1 | 1/9/2012 | AP |
| Barium | BDL | mg/kg | 7081 | 0.1 | 1/9/2012 | AP |
| Cadmium | BDL | mg/kg | 7131 | 0.1 | 1/9/2012 | AP |
| Chromium | BDL | mg/kg | 7191 | 0.1 | 1/9/2012 | AP |
| Mercury | BDL | mg/kg | 7471 | 0.01 | 1/9/2012 | AP |
| Lead | BDL | mg/kg | 7421 | 0.1 | 1/9/2012 | AP |
| Selenium | BDL | mg/kg | 7740 | 0.5 | 1/9/2012 | AP |
| Silver | BDL | mg/kg | 7761 | 0.1 | 1/9/2012 | AP |
| Total Halides | BDL | mg/kg | | | 1/9/2012 | AP |
| % Total Water | <1 | | | | 1/9/2012 | AP |
| Btu's/Lbs | 19107 | Btu's/Lbs | | | 1/9/2012 | AP |
| % Water (free) | <0.1 | % | | | | |
| Chlor D Tect | Neg. | Pos/Neg | | | | |
| Density | 6.926 | lbs/gal | | | 1/9/2012 | AP |
| %Solids | <1 | % | | | | |
| Viscosity #2 | 15 | sec | | | 1/9/2012 | AP |
| 61's | Neg. | mg/kg | (see attached) | | | |
| API @ 60°F | 39 | | | | 1/9/2012 | AP |

Laboratory Report

Client: Rinker
Address: Miami, FL
Sample type: off spec fuel
Date: 12/19/2011
Batch #/Tk5 12M01
Laboratory ID# 1124905-02
Manifest # 214676-1

| <u>Parameter</u> | <u>Results</u> | <u>Unit</u> | <u>Test Method</u> |
|---------------------|----------------|-------------|--------------------|
| Arsenic | <1.0 | PPM | 6010 |
| Cadmium | <1.0 | PPM | 6010 |
| Chromium | <4.0 | PPM | 6010 |
| Lead | 2.8 | PPM | 6010 |
| API Gravity | 25.8 | 60 F | D287 |
| Heat of combustion | 142014 | BTU/Gal | D-240-02 |
| Flash point(PMCC) | <100 | F | 1010 |
| PCB | <1.0 | PPM | 8082 |
| Sulfur, wt% | 0.5948 | % | D-4294 |
| Total Halogen, PPM | 249 | PPM | 9075 |
| Water | <2.0% | % | D-95 |
| Viscosity SUS @100F | 764 | SSU | D-445 |
| Density | 7.491 | Lbs/Gal | Calculation |

The analyses were performed in accordance with EPA, ASTM or other FDER approved procedures.
Some of the analyses may be performed on a monthly basis.


Quality Assurance Officer

Cliff Berry, Inc. P.O. Box 13079,
Ft. Lauderdale, Fl. 33316
954 763 3390,

Operation: Miami Plant, 3033 NW
North River Drive, Miami, Fl.33142
Fax. 305- 638-0610

Laboratory Report

Client: Rinker
Address: Miami, FL
Sample type: off spec fuel
Date: 12/20/2011
Batch #/Tk5 12M01
Laboratory ID# 1124905-02
Manifest # 214674-1

| <u>Parameter</u> | <u>Results</u> | <u>Unit</u> | <u>Test Method</u> |
|---------------------|----------------|-------------|--------------------|
| Arsenic | <1.0 | PPM | 6010 |
| Cadmium | <1.0 | PPM | 6010 |
| Chromium | <4.0 | PPM | 6010 |
| Lead | 2.8 | PPM | 6010 |
| API Gravity | 25.8 | 60 F | D287 |
| Heat of combustion | 142014 | BTU/Gal | D-240-02 |
| Flash point(PMCC) | <100 | F | 1010 |
| PCB | <1.0 | PPM | 8082 |
| Sulfur, wt% | 0.5948 | % | D-4294 |
| Total Halogen, PPM | 249 | PPM | 9075 |
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P.E. CERTIFICATION STATEMENT

PERMITTEE

CEMEX Construction Materials, LLC
10311 Cement Plant Road
Brooksville, Florida 34601

Draft Permit No. 0530021-039AC
Brooksville South Cement Plant
Alternative Fuels (AF)
Hernando County, Florida

PROJECT DESCRIPTION

The draft permit authorizes the installation and operation of a horizontal pulse-jet baghouse (M-03) in between Clinker Feeder (M-02) and Clinker Belt (M-04) for the Kiln No. 1 System, construction of mechanical and pneumatic material handling systems for introduction of alternative fuels into the existing preheater/precalciner kiln system, and the modification or replacement of the main kiln burner to allow introduction of a variety of fuels to the Kiln No. 2 System. These modifications will not increase production capacity. The applicant does not request the relaxation of any existing permit limit or applicable regulatory requirements for Portland cement plants. The cement kiln is currently authorized to fire natural gas, distillate fuel oil, coal, petroleum coke, propane, fly ash, and whole tires. The plant is also permitted for trial burning of a variety of non-hazardous alternative fuels. Based on continuously-developed available information regarding the firing of non-hazardous alternative fuels in cement kilns, the plant requests permanent authorization to fire the non-hazardous alternative fuels, identified below. The applicant proposes to use these alternative fuels for cement production to reduce greenhouse gases and its reliance on fossil fuels, such as coal. The project includes electric or diesel-powered shredding and screening equipment to further process these materials onsite as necessary.

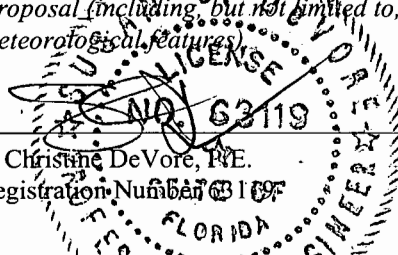
The following non-hazardous alternative fuels in any combination are authorized to be fired in existing cement Kiln No. 2: tire-derived fuel; plastics; roofing materials; agricultural biogenic materials (e.g., peanut hulls, rice hulls, corn husks, citrus peels, cotton gin byproducts, animal bedding, etc.); untreated cellulosic biomass (e.g., green wood, forest thinnings, sawdust, trees trimmings, clean woody land clearing debris and clean construction and demolition (C&D) wood); treated cellulosic biomass (e.g. CCA-treated wood, creosote-treated wood, C&D debris not meeting the definition of clean C&D wood, plywood, particle board, medium density fiberboard, oriented strand board, laminated beams, finger-jointed trim and sheet goods); carpet-derived fuels and engineered fuels. Engineered fuels (EF) is a non-hazardous replacement for fossil fuels. EF is engineered largely from the above materials and could consist of animal meal, automotive manufacturing byproducts, clean-up debris from natural disasters, processed municipal solid waste, dried/sanitized biosolids, paint filter cake, hospital materials (non-infectious), pharmaceuticals (expired prescriptions), cosmetics, and confiscated narcotics (mixes of any alternative fuels where the blending and processing may also include the addition of on-specification and off-specification used oils or other non-hazardous liquids to ensure consistent and predictable fuel properties). In addition, the permitted construction from Permit No. 0530021-030-AC for a baghouse for Kiln No. 1 is included as that permit has expired and the permittee needs additional time to complete the performance testing due to the plant not running from low demand.

The modified kiln system will continue to meet all current emission limits when alternative fuels are used. Actual emissions from the existing cement kiln are continuously monitored for the following pollutants: carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO₂), and volatile organic compounds (VOC). There is also a continuous monitor for measuring the stack opacity. The applicant will continue to use all required monitoring systems to ensure compliance with existing and enforceable permit requirements when firing alternative fuels. As required by permit, mercury emissions will be determined based on material balance and particulate matter and dioxin/furan emissions will be determined by stack test.

This project is subject to the general preconstruction review requirements in Rule 62-212.300, Florida Administrative Code (F.A.C.) and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality. The Department's full review of the project and rationale for issuing the draft permit is provided in the Technical Evaluation and Preliminary Determination.

***I HEREBY CERTIFY** that the air pollution control engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-212.300 through 62-297. However, I have not evaluated and I do not certify any other aspects of the proposal (including, but not limited to, the electrical, civil, mechanical, structural, hydrological, geological, and meteorological features).*

S. Christine DeVore, P.E.
Registration Number 63119



3/27/12

(Date)



RECEIVED

APR 17 2012

DIVISION OF AIR
RESOURCE MANAGEMENT

April 16, 2012

Ms. Christy DeVore, P.E.
Professional Engineer II
Florida Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation
New Source Review
2600 Blair Stone Road, MS #5505
Tallahassee, FL 32399-2400

Re: Proposed Permit No. 0530021-039-AC, Proof of Publication – Notice of Proposed
Construction Permit; Kiln No. 2- Kiln No. 2, CEMEX Construction Materials
Florida, LLC, Long-Term Alternative Fuels Application

Dear: Ms. DeVore:

Please find enclosed the original affidavit, with article, as proof of publication for the
proposed permit/facility mentioned above. The article was published in the legal section of
the Tampa Bay Times on April 1, 2012.

Should you have any questions and/or comments concerning this submittal or require
additional information, please contact me at 352-799-7881 or gtownsend@cemexusa.com.

Respectfully,

George Townsend
Environmental Manager

pc: James S. Daniel, Plant Manager
Max Lee, P.E., Koogler & Associates

D:\Documents and Settings\gtownsend\My Documents\Brooksville South\Kiln No.2 Long-Term Alt. Fuels Application_050023039-
AC\Proof of Publicaiaon Submittal 039-AC 04162012.doc

Brooksville South Plant

10311 Cement Plant Rd, Brooksville, FL 34601. USA, (352) 799-7881, Fax (352) 799-6088

Tampa Bay Times

Published Daily

St. Petersburg, Pinellas County, Florida

STATE OF FLORIDA
COUNTY OF Pinellas

} S.S.

Before the undersigned authority personally appeared **D. Almeida** who on oath says that he/she is **Legal Clerk** of the **Tampa Bay Times** a daily newspaper published at St. Petersburg, in Pinellas County, Florida; that the attached copy of advertisement, being a **Legal Notice** in the matter **RE: Public Notice of Intent to Issue Air Permit 0530021-039-AC** was published in said newspaper in the issues of **Classified Hernando & Citrus**, 4/1/2012.

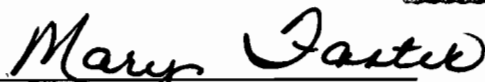
Affiant further says the said **Tampa Bay Times** is a newspaper published at St. Petersburg, in said Pinellas County, Florida and that the said newspaper has heretofore been continuously published in said Pinellas County, Florida, each day and has been entered as second class mail matter at the post office in St. Petersburg, in said Pinellas County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement, and affiant further says that he /she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.



Signature of Affiant

Sworn to and subscribed before me
this 3rd day of April A.D.2012




Signature of Notary Public

Personally known or produced identification

Type of identification produced _____

RECEIVED

APR 17 2012

DIVISION OF AIR
RESOURCE MANAGEMENT

PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT
Florida Department of Environmental Protection
Division of Air Resource Management, Office of Permitting and Compliance
Draft Air Permit No. 0530021-039-AC
CEMEX Construction Materials Florida, LLC, Brooksville South Cement Plant
Hernando County, Florida

Applicant: The applicant for this project is CEMEX Construction Materials Florida, LLC. The applicant's authorized representative and mailing address is: Mr. James Daniel, Plant Manager, CEMEX Construction Materials Florida, LLC, Brooksville South Cement Plant, 10311 Cement Plant Road, Brooksville, Florida 34601.

Facility Location: CEMEX Construction Materials Florida, LLC operates the existing Brooksville South Cement Plant, which is located in Hernando County at 10311 Cement Plant Road in Brooksville, Florida.

Project: The applicant proposes to: install and operate a horizontal pulse-jet baghouse (M-03) in between Clinker Feeder (M-02) and Clinker Belt (M-04) to the Kiln No. 1 System; construct mechanical and pneumatic material handling systems for introduction of alternative fuels into the existing preheater/precalciner kiln system and modify or replace the main kiln burner to allow introduction of a variety of fuels to the Kiln No. 2 System. These modifications will not increase production capacity. The applicant does not request the relaxation of any existing permit limit or applicable regulatory requirements for Portland cement plants. The cement kiln is currently authorized to fire natural gas, distillate fuel oil, coal, petroleum coke, propane, fly ash, and whole tires. The plant is also permitted for trial burning of a variety of non-hazardous alternative fuels. Based on continuously-developing available information regarding the firing of non-hazardous alternative fuels in cement kilns, the plant requests permanent authorization to fire the non-hazardous alternative fuels, identified below. The applicant proposes to use these alternative fuels for cement production to reduce greenhouse gases and its reliance on fossil fuels, such as coal. The project includes electric or diesel-powered shredding and screening equipment to further process these materials onsite as necessary.

The plant requests authorization to fire the following non-hazardous alternative fuels in any combination in the existing cement Kiln No. 2 System: tire-derived fuel; plastics; roofing materials; agricultural biogenic materials; untreated and treated cellulose biomass; carpet-derived fuels and engineered fuels

The modified kiln system will continue to meet all current emission limits when alternative fuels are used. Actual emissions from the existing cement kiln are continuously monitored for the following pollutants: carbon monoxide (CO), nitrogen oxides (NOX), sulfur dioxide (SO2), and volatile organic compounds (VOC). There is also a continuous monitor for measuring the stack opacity. The applicant will continue to use all required monitoring systems to ensure compliance with existing and enforceable permit requirements when firing alternative fuels. As required by permit, mercury emissions will be determined based on material balance and particulate matter and dioxin/furan emissions will be determined by stack test.

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210 and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Permitting Authority responsible for making a permit determination for this project is the Office of Permitting and Compliance in the Department of Environmental Protection's Division of Air Resource Management. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's phone number is 850-717-9000.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at the physical address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application and information submitted by the applicant (exclusive of confidential records under Section 403.111, F.S.). Interested persons may contact the Permitting Authority's project engineer for additional information at the address and phone number listed above. In addition, electronic copies of these documents are available on the following web site: <http://www.dep.state.fl.us/air/emission/apds/default.asp>.

Notice of Intent to Issue Air Permit: The Permitting Authority gives notice of its intent to issue an air construction permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of proposed equipment will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed Draft Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

Comments: The Permitting Authority will accept written comments concerning the proposed Draft Permit for a period of 14 days from the date of publication of the Public Notice. Written comments must be received by the Permitting Authority by close of business (5:00 p.m.) on or before the end of this 14-day period. If written comments received result in a significant change to the Draft Permit, the Permitting Authority shall revise the Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S. must be filed within 14 days of publication of this Public Notice or receipt of a written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within 14 days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts upon which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address and telephone number of the petitioner; the name address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial rights will be affected by the agency determination; (c) A statement of when and how the petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Public Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available for this proceeding.

Published in the Tampa Bay Times April 1, 2012 (003720980)