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KA 521-11-09
June 8, 2011

RECEIVED

JUN 13 2011

BUREAU OF
AIR REGULATION

Mr. Jeff Koerner
Bureau of Air Regulation
Florida Dept. of Environmental Regulation
2600 Blair Stone Road, MS 5500
Tallahassee, Florida 32399-2400

**RE: Request for Permitting Exemption – Storage, Handling, and Grinding
Related to Short Term Trial Test of Specific Alternative Materials
CEMEX Construction Materials Florida, LLC –North Plant
Facility ID: 0530010**

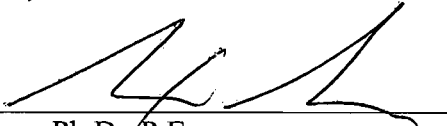
Dear Mr. Koerner:

On behalf of Cemex Construction Materials Florida, LLC (CEMEX), I am requesting for a determination from the Department that a temporary transport, handling, storage and grinding operation at the CEMEX Brooksville North facility be considered for TV purposes as an insignificant activity per 62-210.300(3)(b), F.A.C.. As you are aware, the CEMEX Brooksville South facility was recently permitted to allow short trial burns of several alternative fuels (0530021-031-AC). The AC permit allows for the transport, handling, storage and grinding of the alternative fuel materials (permit condition, Specific Condition A.2) at that facility. CEMEX would like to conduct this option for grinding operations at the North Plant cement packing building instead of at the South plant for several reasons. The North plant has copious available indoor space in the dormant cement packing building. This building is well enclosed and will allow any grinding operations to be conducted in a location that is enclosed and with little activity in the area at the plant. In contrast the operations at the South plant are very active and the space and timing to conduct any grinding can be constrained. As such, CEMEX believes that conducting such operations at the North plant is a more practical location and the air emissions will be the same if not lower as requested in the AC permit for the Brooksville South Plant. Therefore, I am submitting to you the following calculations for the transportation, handling, storage and grinding for the requested activity.

The requested operation is solely based on the short-term trials at the South plant and thus the calculations are based on that AC permit allowance. In fact, if approved by the Department, we request to identify this insignificant activity as: *Grinding Operations for supply material for permit 0530021-031-AC.*

Please feel free to contact me at (352) 377-5822 or mlee@kooglerassociates.com if you have any questions regarding this submittal.

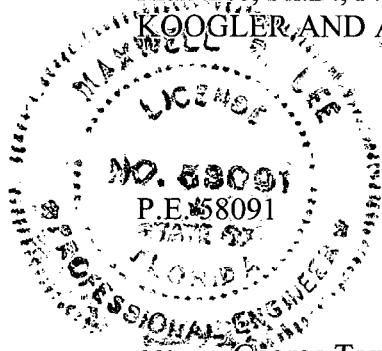
Regards,



Max Lee, Ph.D., P.E.
KOOGLER AND ASSOCIATES, INC.

6/8/11

Date



cc: George Townsend, CEMEX (email only)
Lillian Deprimo, CEMEX (email only)

Enc:

Attachment

Calculation of Emissions from Transport, Storage, Handling and Grinding
of Materials for Short Term Trials
allowed by permit 0530021-031-AC

Emissions Estimate of Alternative Fuel Transport/Handling/Grinding
 Created: June 6, 2011
 Cemex Construction Materials Florida, LLC, Brooksville North cement plant (Facility ID: 0530010)

STEP	Action/Tasks	generic description	% of Total		PM Emission Factor ^a	PM ₁₀ Emission Factor ^b	PM Emissions tons	PM ₁₀ /PM _{2.5} Emissions tons	Emission Factors ^c	hours	SO ₂ Emissions tons	CO Emissions tons	NO _x +NMHC Emissions tons
			Throughput	Road miles									
Transport materials by covered truck. Fugitive emissions: 1.4 miles per round trip x 59,400 tons/trip (conservative estimated density) = 5,544 miles. Assume PM10 = PM. EF = 0.524 lb/Vehicle Miles Traveled (VMT) (see Emission Factors for Process Fugitives sheet)													
1	Store under cover (to prevent stormwater runoff and fugitives).	transporting	100	5544	0.524 lb/VMT		1.453	1.453					
2	Load material by frontend loader into optional grinder hopper. ^a	loading	100		0.0038729 lb/ton	0.0018318 lb/ton	0.11503	0.05440					
4	Grinder ^b	grinding	100		0.0012 lb/ton	0.00054 lb/ton	0.03564	0.01604					
Grinder engine emissions		engine					0.04768	0.01656	0.15 gr/bhp.hr				
630 horse power engine operating for 1188 hours (59,400 tons @ 50 tons/hr)									0.929 gr/bhp.hr	1188	0.731		
									3.7 gr/bhp.hr	1188		2.911	
									3.0 gr/bhp.hr	1188			2.400
Screen ^a		screening	100		0.00014 lb/ton	0.000046 lb/ton	0.00416	0.00137					
Screener engine emissions		engine					0.06358	0.02623	0.2 gr/bhp.hr	1188			
100 horse power engine operating for 1188 hours (59,400 tons @ 50 tons/hr)									0.929 gr/bhp.hr	1188	0.122		
									2.6 gr/bhp.hr	1188		0.341	
									3.0 gr/bhp.hr	1188			0.393
Total =							1.719	1.567			0.853	3.252	2.793

Based on process rates of: **total = 59,400** tons of alternative fuels

Notes:
^a This screen operation will operate as a wet screen most of the time. However since it may operate without water sprays, emissions are calculated for this emissions point. PM Emissions factor calculated below.
^b Emission factors of screening, crushing, and conveying based on AP-42 Table 11.19.2-2. Alternate fuel PM factors assumed to have similar emissions as aggregate operation. Controlled emission factors are used since the moisture content of the raw material is estimated to be >1.5% (AP-42 basis for "controlled" emissions). Assume PM10 = PM2.5
^c Schenk Shredder (or equivalent), shredding at minimum of 50 ton/hr having diesel engine maximum size 630 (grinder) and 100 (screen(s)) horse power. 100 and 630 HP Tier 3 engine emission factors stated below. SO2 EF based on AP-42, 3.3-1 emission factor = 0.929gr/bhp*hr-SO_x.

Engine Power	Tier	Year	CO	HC	NMHC +NOx	NOx	PM
(100 ≤ hp < 175)	Tier 2	2003	3.70	-	4.90	-	0.22
	Tier 3	2007	3.70	-	3.00	-	+†
(600 ≤ hp < 750)	Tier 2	2002	2.60	-	4.80	-	0.15
	Tier 3	2006	2.60	-	3.00	-	-†

Emissions Estimate of Alternative Fuel Transport/Handling/Grinding

Created: June 6, 2011

Cemex Construction Materials Florida, LLC, Brooksville North cement plant (Facility ID: 0530010)

Emission Factors For Process Fugitive Emissions

Material Transfer Operations

$E = k (0.0032) (U/5)^{1.3} / (M/2)^{1.4}$ Reference: AP-42 Section 13.2.4

k = 0.74 TSP Factor 1.000 Ratio/TSP
 0.35 PM10 0.473 Ratio/TSP
 0.11 PM2.5 0.149 Ratio/TSP
 U = 7.3 MPH Average Wind Speed

Condition	Moisture M, %	Emission Factor, E		
		TSP Lbs./Ton	PM10 Lbs./Ton	PM2.5 Lbs./Ton
Normal	2	0.00387	0.00183	0.00058

Moisture content selected as conservative estimate. Analytical data shows moisture of higher values.

Truck Traffic

Where from AP-42 and references, k=0.082, sL=0.4, W=22, C=0.00047, p =120.

$E = (0.082 \times (0.4/2)^{0.65} \times (22/3)^{1.5} - 0.00047) \times (1 - (120/4 \times 365))$
 = 0.524 lb/VMT (paved roads)