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KA 263-08-06
April 16, 2010

RECEIVED

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BUREAU OF
AIR REGULATION

Ms. Christy Devore
Bureau of Air Regulation
Florida Dept. of Environmental Regulation
2600 Blair Stone Road, MS 5500
Tallahassee, Florida 32399-2400

**RE: AC Permit Application for Short Term Trial Test of Alternative Fuel Materials in Kiln
Cemex Construction Material Florida LLC; Facility ID: 0250014
Response to RAI dated March 17, 2010**

Dear Ms. Devore:

Enclosed please find four (4) copies of the response to your request for additional information dated March 17, 2010. The enclosed revised potential emissions table reflects CEMs emissions data specific to this cement plant. Emissions of SO₂, NO_x, VOC/THC are monitored by Part 60-certified CEMs, CO and PM are monitored by stack testing. As well, CO process monitor data is included. A hardcopy of the proposed schedule is also included.

Please feel free to contact me at (352) 377-5822 or mlee@koooglerassociates.com or Charles Walz, Cemex Construction Materials LLC at (305) 229-2955 or charles.walz@cemex.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.
Senior Engineer
KOOGLER AND ASSOCIATES, INC.

Enclosure: Revised tables to application

cc: Charles Walz, Cemex Construction Materials LLC

Cemex Construction Materials Florida, LLC, Miami cement plant

Proposed Trial Burn Schedule: Biomass, clean woody biomass from Covanta Energy - Miami-Dade County Resource Recovery Facility

heat values

coal 13000 btu/lb= 26 mmbtu/ton
 woody biomass 3991 btu/lb= 7.982 mmbtu/ton

estimated dates	estimated # of days	No co-firing heat input replaced %	heat rate of firing			material mass of firing			
			total mmbtu/hr	coal mmbtu/hr	wood mmbtu/hr	coal ton/hr	ton/period	wood ton/hr	ton/period
1-Jun			485	485	0	18.7			
(12 months) 120 kiln op. days	5	10	485	436.5	48.5	16.8	2,015	6.1	729
	5	20	485	388.0	97.0	14.9	1,791	12.2	1,458
	5	29	485	344.4	140.7	13.2	1,589	17.6	2,115
1-Jun									

	tons	tons
Total mass	5,395	4,302

Requested woody biomass **5000**
 with option to request additional 2,000 tons

Cemex Construction Materials Florida, LLC, Miami cement plant

Proposed Trial Burn Schedule: Biomass, clean woody biomass from Covanta Energy - Miami-Dade County Resource Recovery Facility

Emissions Comparison - Summary

	<u>Wood Processing</u>	<u>Wood Firing</u>	<u>Total</u>	<u>PSD Threshold tons</u>
	Increase/Decrease TRIAL PERIOD tons	Increase/Decrease TRIAL PERIOD tons	Increase/Decrease TRIAL PERIOD tons	
Sulfur Dioxide	1.00	0.36	1.4	40
Nitrogen Oxides	3.29	-9.51	-6.2	40
Carbon Monoxide	3.83	-1.01	2.8	100
Volatile Organic Compounds	3.29	-0.01	3.3	40
Particulate matter (PM/PM10)	0.20	2.22	2.4	25/15
Hg (lbs)	negligible	-0.10	-0.1	120 lbs

Cemex Construction Materials Florida, LLC, Miami cement plant

Potential Emissions from Kiln - Coal and Biomass

Biomass from from Miami-Dade County Resource Recovery Facility

	coal (wet)	biomass (wet) *	
moisture content =	.7 (2008 plant avg.)	49.4	percent
heat content =	13000	3991	btu/lb
heat content =	26	7.98	mmbtu/ton
sulfur percent =	1.0	0.13	percent
Ash percent =	7.9	4.31	percent
maximum heat input =	485	145.5	mmbtu/hr
maximum fuel input =	18.7		ton/hr
30% of max. fuel input =	5.60	18.23	ton/hr
Trial Burn amount =		7000	tons

pollutant	fuel type	Emission Factor COMMENTS	Estimated Trial Testing Emissions				
			Fuel Quantity biomass Fuel	equivalent coal	Emission Factor	Emissions	Difference of Emissions
			tons	tons	lb/mmbtu	tons	tons
SO2	coal	based on 2009 CEM data and coal usage (see attached data sheet- "Emiss. Factor Data")		2149	0.012	0.34	0.36
	biomass	Ap-42, Table 1.6-2, majority of biomass is wood	7000		0.025	0.70	
NOx	coal	based on 2009 CEM data and coal usage (see attached data sheet- "Emiss. Factor Data")		2149	0.831	23.20	-9.51
	biomass	Ap-42, Table 1.6-2, majority of biomass is wood	7000		0.490	13.69	
CO	coal	based on 2009 CEM data and coal usage (see attached data sheet- "Emiss. Factor Data")		2149	0.636	17.77	-1.01
	biomass	Ap-42, Table 1.6-2, majority of biomass is wood	7000		0.600	16.76	
VOC (as NMHC)	coal	based on 2009 CEM data and coal usage (see attached data sheet- "Emiss. Factor Data")		2149	0.039	1.10	-0.01
	biomass	Ap-42, Table 1.6-3, TOC	7000		0.039	1.09	
PM/PM10	coal	based on 2005-2009 test data and coal usage (see attached data sheet- "Emiss. Factor Data")		2149	0.020	0.57	2.22
	biomass	AP-42, Table 1.6-1, (all fuels - 0.1 lb/mmbtu)	7000		0.100	2.79	

Cemex Construction Materials Florida, LLC, Miami cement plant

REVISED: 4/5/2010

Emissions Factor Data: for coal - CEM and stack test data

yr 2009	coal (a) ton/month	oil (a) gal/month	Total heat input mmbtu/month	Nitrogen Oxides CEM data		Sulfur Dioxide CEM data		Volatile Organic Comp. CEM data		Carbon Monoxide Process Monitor Data					year
				NOx lb/month	lbNOx/ mmbtu	SO2 lb/month	lbSO2/ mmbtu	VOC lb/month	lbVOC/ mmbtu	CO (dry basis) avg ppm	flowrate dscfm*	lb CO/hr	kiln run time hr/month	lb CO/month	
9-Jan	downtimes occurred			180695		2982		6947.6							
9-Feb	downtimes occurred			146325		2836		5979.2							
9-Mar	downtimes occurred			144556		3738		6215.1							
9-Apr	downtimes occurred			99983		3600		4327.9							
9-May	10,584.2	86,742	287,940	229693	0.80	3884	0.013	11476.4	0.040	626	220,372	601.9	742.0	446,596	1.551
9-Jun	downtimes occurred			0		0		0							
9-Jul	7,790.6	336,927	252,085	231217	0.92	2064	0.008	9761	0.039	465	220,372	447.2	693.5	310,102	1.230
9-Aug	downtimes occurred			122330		1106		4283.6							
9-Sep	9,655.6	154,392	273,740	212604	0.78	4088	0.015	10749.8	0.039	450	220,372	432.7	705.2	305,162	1.115
9-Oct	downtimes occurred			0		0		0							
9-Nov	downtimes occurred			135564		1813		5701.9							
9-Dec	downtimes occurred			135540		1753		6397.3							
average					0.831		0.012		0.039					494	1.299

(a) coal 26mmbtu/ton, oil 147 mmbtu/1000gal
note : tires input less than 1 percent of total heat.

* average flowrate measured during compliance PM testing, 2007, 2008, and 2009
8/14/2007 212055
5/14/2008 234817
9/1/2009 214245
avg 220372

**Carbon Monoxide
based on stack test**

year	stack test lb/ton clinker	5-yr avg lb/ton clinker	yr 2009 clinker tons	yr 2009 CO pounds	yr 2009 fuel mmbtu	lb CO/ mmbtu
2008	2.675					
2007	1.26					
2006	1.55					
2005	1.725					
2009 heat input of fuels mmbtu tires 13,858 mmbtu oil 152,265 mmbtu coal 1,920,126 Total 2,086,249						

**PM/PM10
based on stack test**

year	stack test lb/ton clinker	5-yr avg lb/ton clinker	yr 2009 clinker tons	yr 2009 PM/PM10 pounds	yr 2009 fuel mmbtu	lb PM/PM10/ mmbtu
2008	0.0390					
2007	0.0718					
2006	0.0700					
2005	0.0743					