



KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES

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KA 521-06-20
September 1, 2006

RECEIVED

SEP 05 2006

BUREAU OF AIR REGULATION

Ms. Trina Vielhauer
Florida Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road MS 5500
Tallahassee, Florida 32399-2400

RE: CEMEX Cement, Inc.
Brooksville Cement Plant
Indirect Firing Systems for Kilns No. 1 and 2, Application Revision

Dear Trina:

Enclosed please find a revision to the air construction permit application to install indirect firing systems on Kilns 1 and 2 at CEMEX Cement, Inc.'s Brooksville Cement Plant (Facility ID No. 0530010). The construction permit application was submitted to FDEP on August 18. A description of the revision is as described below.

The past actual and future actual emission calculations presented in Table 3 of Attachment A to the permit application, have been revised in accordance with Rule 62-210.370, F.A.C. The past actual emissions for Kilns 1 and 2 have been calculated using stack test data and actual production data for the consecutive 24-month period of calendar year 1999 through 2000. Stack test data were used since certified CEMS data are not available for Kilns 1 and 2.

Emission factors were derived (in lb/ton of preheater feed) by using the average of all stack test data for the 5-year period of 1999 through 2003 for PM, PM₁₀ (assumed all PM is PM₁₀), NO_x, CO, and SO₂. Since only 1 stack test was performed on Kilns 1 and 2 to determine VOC emissions during this 5-year period (in 2001), these data were used for the VOC emission factor. Stack test data from 2003 for Kiln 1 were excluded since the test was performed while the Kiln was burning coal only. Refer to Table 4 for the derivation of the emission factors.

For each pollutant except VOC, an average emission factor was derived for each kiln and was then applied to the actual production data for that specific year to calculate annual emissions (tons


per year). These calculations are presented in Table 5. The highest consecutive 24-month period of emissions (1999 through 2000) represents the "past actual" emissions in Table 3.

Future actual emissions were calculated based on the past actual emissions plus a 10% demand increase to account for the increase in cement production and a PSD netting factor (taken as the PSD significant emission rate minus 1 TPY).

Please feel free to contact me at (352) 377-5822 or FBergen@kooglerassociates.com, or Mr. Charles Walz, CEMEX Cement Inc., at (352) 799-2011, if you have any questions regarding this submittal.

Very truly yours,

KOOGLER & ASSOCIATES



Fawn W. Bergen, P.E.
Project Engineer

FB

Enclosure: Tables 3, 4, and 5
PE Signature Page
RO Signature Page

cc: J. Gill, CEMEX
A. Linero, FDEP
C. Mulkey, FDEP
C. Walz, CEMEX

APPLICATION INFORMATION

Owner/Authorized Representative Statement

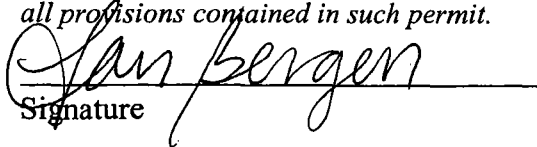
Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name : Michael A. Gonzales, Plant Manager
2. Owner/Authorized Representative Mailing Address... Organization/Firm: CEMEX Cement, Inc. Street Address: Post Office Box 6 City: Brooksville State: Florida Zip Code: 34605-0006
3. Owner/Authorized Representative Telephone Numbers... Telephone: (352) 799-2057 ext. Fax: (352) 754-9836
4. Owner/Authorized Representative Email Address: Michaelanthony.gonzales@cemexusa.com
5. Owner/Authorized Representative Statement: <i>I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other requirements identified in this application to which the facility is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit.</i> _____ Signature _____ Date

Note: Original being sent under separate cover.

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: Fawn Bergen, P.E. Registration Number: 61614
2. Professional Engineer Mailing Address... Organization/Firm: Koogler & Associates, Inc. Street Address: 4014 N.W. 13th Street City: Gainesville State: Florida Zip Code: 32609
3. Professional Engineer Telephone Numbers... Telephone: (352) 377-5822 ext.29 Fax: (352) 377-7158
4. Professional Engineer Email Address: fbergen@kooglerassociates.com
5. Professional Engineer Statement: <i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i> <i>(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and</i> <i>(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.</i> <i>(3) If the purpose of this application is to obtain a Title V air operation permit (check here <input type="checkbox"/>, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.</i> <i>(4) If the purpose of this application is to obtain an air construction permit (check here <input checked="" type="checkbox"/>, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here <input type="checkbox"/>, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.</i> <i>(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here <input type="checkbox"/>, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.</i>  Signature _____ Date <u>9/1/06</u> (seal)

* Attach any exception to certification statement.

Table 3. Summary of Past Actual and Future Actual Emissions and PSD Applicability Analysis

	Annual Emissions (TPY)					
	CO	NO _x	PM	PM ₁₀	SO ₂	VOC
Past Actual^a						
Kiln No. 1 <i>average of 1999 & 2000</i>	597.0	763.5	33.0	33.0	5.0	43.4
Kiln No. 2	591.3	835.9	17.4	17.4	4.8	49.0
Total Past Actual	1,188.3	1,599.4	50.4	50.4	9.8	92.5
Demand Increase	118.8	159.9	5.0	5.0	1.0	9.2
PSD Netting Factor	99.0	39.0	24.0	14.0	39.0	39.0
Future Actual, Total^b	1,406.2	1,798.3	79.4	69.4	49.8	140.7
Future Actual, per Kiln	703.1	899.2	39.7	34.7	24.9	70.3

TPY Limit #1 788 1,202 118 118 66 59

#2 788 1,130 118 118 66 59

^a Refer to Tables 4 and 5 for emission calculations.

^b Future actual emissions based on past actual + 10% demand increase from past actual + PSD netting factor (PSD significant emission rate - 1 TPY)

CO
Crude Power

150 TPY × 8300 = 1,276,000
10%

1,295,000

NO_x
CO

Table 4. Stack Test Data and Emission Factor Derivation, 1999-2003, Cement Kilns 1 and 2, CEMEX Brooksville

Kiln 1

	PH Feed Rate (TPH) ^a	Clinker Produced (TPY) ^b	Converted to Preheater Feed ^c (TPY)	Emissions									
				PM		NO _x		CO		SO ₂		VOC	
				lb/hr	lb/ton ^d	lb/hr	lb/ton ^d	lb/hr	lb/ton ^d	lb/hr	lb/ton ^d	lb/hr	lb/ton ^d
1999	152.0	698,700	1,164,500	10.72	0.07	262.25	1.73	127.78	0.84	0.80	0.005	ND	ND
2000	150.0	683,564	1,139,273	8.27	0.06	174.9	1.17	164.6	1.10	1.67	0.011	ND	ND
2001	150.0	618,572	1,030,953	9.58	0.06	184.0	1.23	171.0	1.14	1.29	0.009	11.31	0.075
2002	146.4	488,014	813,357	5.80	0.04	173.4	1.18	156.4	1.07	1.42	0.010	ND	ND
2003*	150.0	381,572	635,953	7.02	0.05	171.5	1.14	130.7	0.87	3.49	0.023	ND	ND
5-yr Average (99-03)=				8.59	0.057	198.64	1.326	154.95	1.037	1.30	0.009	11.31	0.075
Current Permit Limit (No. 0530010-002-AV)=					0.18		1.83		1.20		0.10		0.09

*Test was performed while Kiln was burning coal only.

Kiln 2

	PH Feed Rate (TPH)	Clinker Produced (TPY) ^b	Converted to Preheater Feed ^c (TPY)	Emissions									
				PM		NO _x		CO		SO ₂		VOC	
				lb/hr	lb/ton ^d	lb/hr	lb/ton ^d	lb/hr	lb/ton ^d	lb/hr	lb/ton ^d	lb/hr	lb/ton ^d
1999	150.0	676,345	1,127,242	3.00	0.02	159.76	1.07	156.00	1.04	0.88	0.006	ND	ND
2000	150.0	694,955	1,158,258	4.47	0.03	221.85	1.48	176.63	1.18	0.89	0.006	ND	ND
2001	150.0	589,000	981,667	8.19	0.05	229.00	1.53	170.00	1.13	0.60	0.004	12.87	0.086
2002	149.9	485,768	809,613	4.18	0.03	230.00	1.53	165.40	1.10	2.46	0.016	ND	ND
2003	155.1	600,728	1,001,213		0.02		1.71		0.72		0.010	ND	ND
5-yr Average (99-03)=				4.96	0.030	210.15	1.46	167.01	1.03	1.21	0.008	12.87	0.086
Current Permit Limit (No. 0530010-002-AV)=					0.18		1.72		1.20		0.10		0.09

ND = No data

^a From stack test data.

^b From AORs.

^c Calculated from the clinker production and a factor of 0.60 x preheater feed = clinker.

^d lb/ton of preheater feed

massive per unit of input

Table 5. Past Actual Emission Calculations, Cement Kilns 1 and 2, CEMEX Brooksville**Kiln 1**

	PH Feed (TPY)	PM		NO _x		CO		SO ₂		VOC	
		lb/ton PH ^a	TPY	lb/ton PH ^a	TPY	lb/ton PH ^a	TPY	lb/ton PH ^a	TPY	lb/ton PH ^b	TPY
1999	1,164,500	0.057	33.4	1.33	771.8	1.04	603.6	0.0087	5.05	0.075	43.9
2000	1,139,273	0.057	32.6	1.33	755.1	1.04	590.5	0.0087	4.94	0.075	43.0
2001	1,030,953	0.057	29.5	1.33	683.3	1.04	534.4	0.0087	4.47	0.075	38.9
2002	813,357	0.057	23.3	1.33	539.1	1.04	421.6	0.0087	3.53	0.075	30.7
2003	635,953	0.057	18.2	1.33	421.5	1.04	329.6	0.0087	2.76	0.075	24.0

Kiln 2

	PH Feed (TPY)	PM		NO _x		CO		SO ₂		VOC	
		lb/ton PH ^a	TPY	lb/ton PH ^a	TPY	lb/ton PH ^a	TPY	lb/ton PH ^a	TPY	lb/ton PH ^b	TPY
1999	1,127,242	0.030	17.2	1.46	824.6	1.03	583.3	0.0084	4.76	0.086	48.4
2000	1,158,258	0.030	17.6	1.46	847.3	1.03	599.3	0.0084	4.89	0.086	49.7
2001	981,667	0.030	14.9	1.46	718.1	1.03	507.9	0.0084	4.14	0.086	42.1
2002	809,613	0.030	12.3	1.46	592.2	1.03	418.9	0.0084	3.42	0.086	34.7
2003	1,001,213	0.030	15.2	1.46	732.4	1.03	518.1	0.0084	4.23	0.086	43.0

^a Based on the average for 1999-2003 (for Kiln 1, 2003 was excluded because test was performed while firing coal only) of stack test data. Refer to Table 4.

^b Based on stack test data for 2001 only, since this is the only stack test performed during this 5-year period. Refer to Table 4.