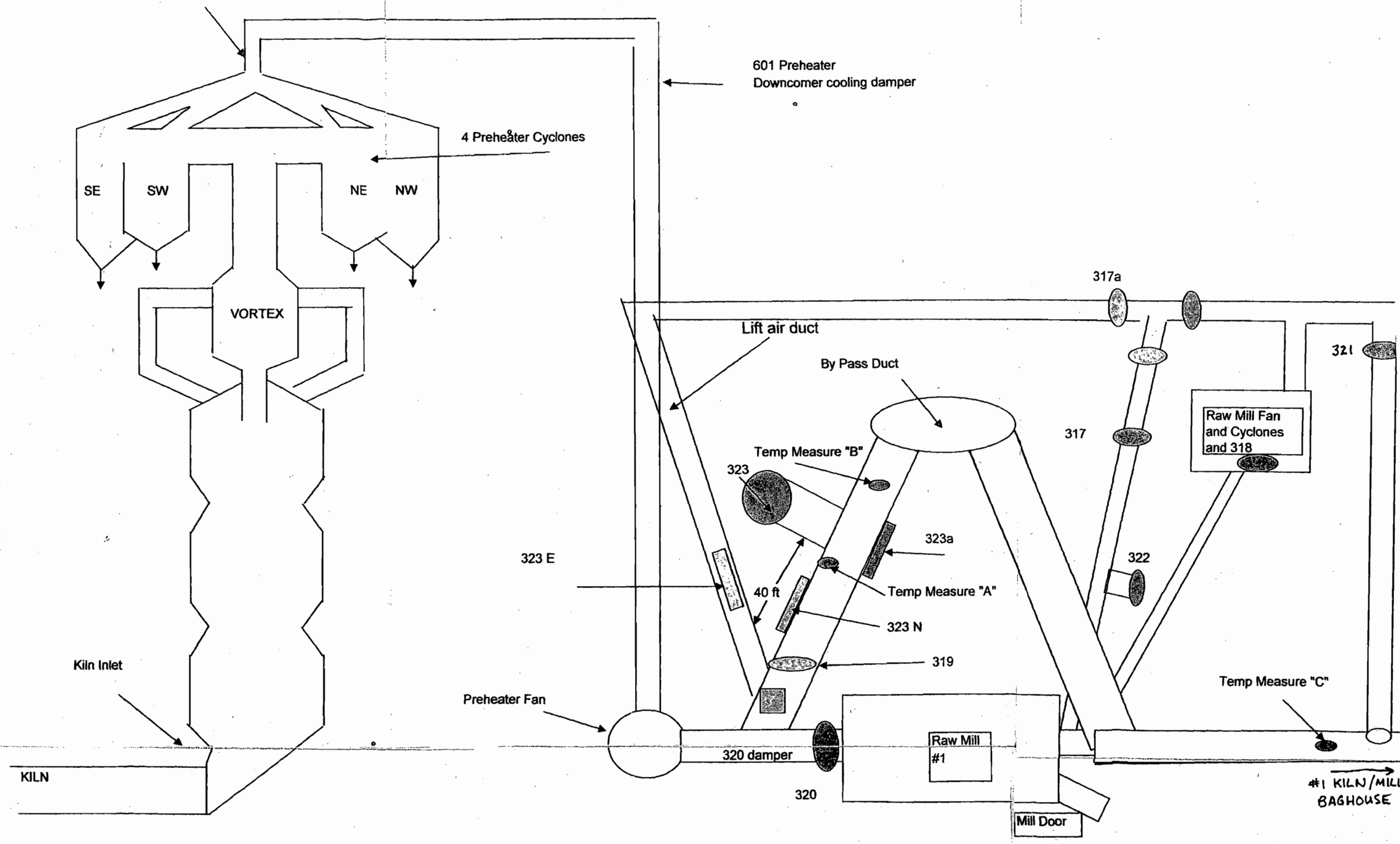
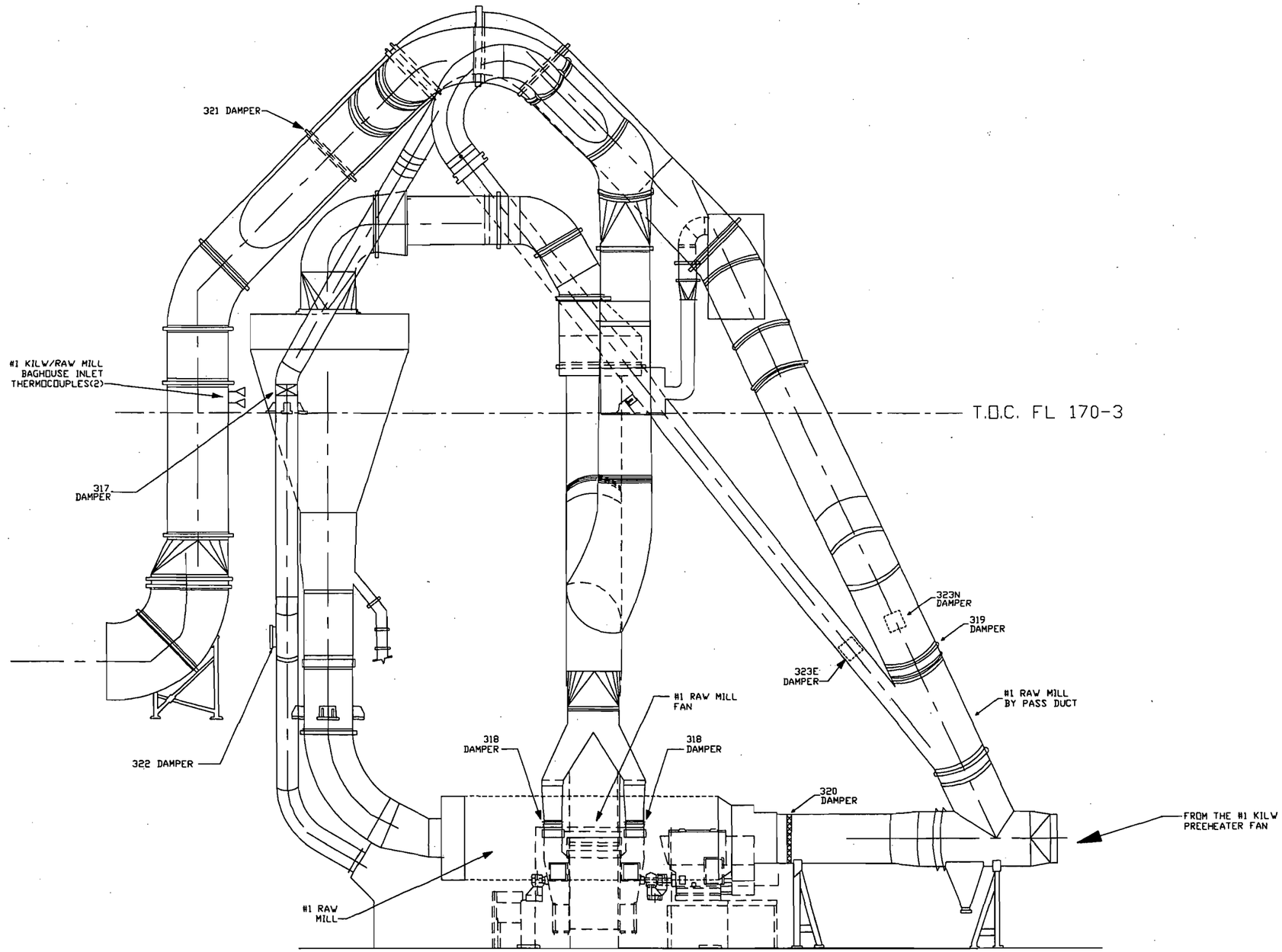
CEMEX INC. BROOKSVILLE PLANT

#1 Kiln PREHEATER





PROJECT
PROJECT

#1 RAW MILL BY PASS DUCTING

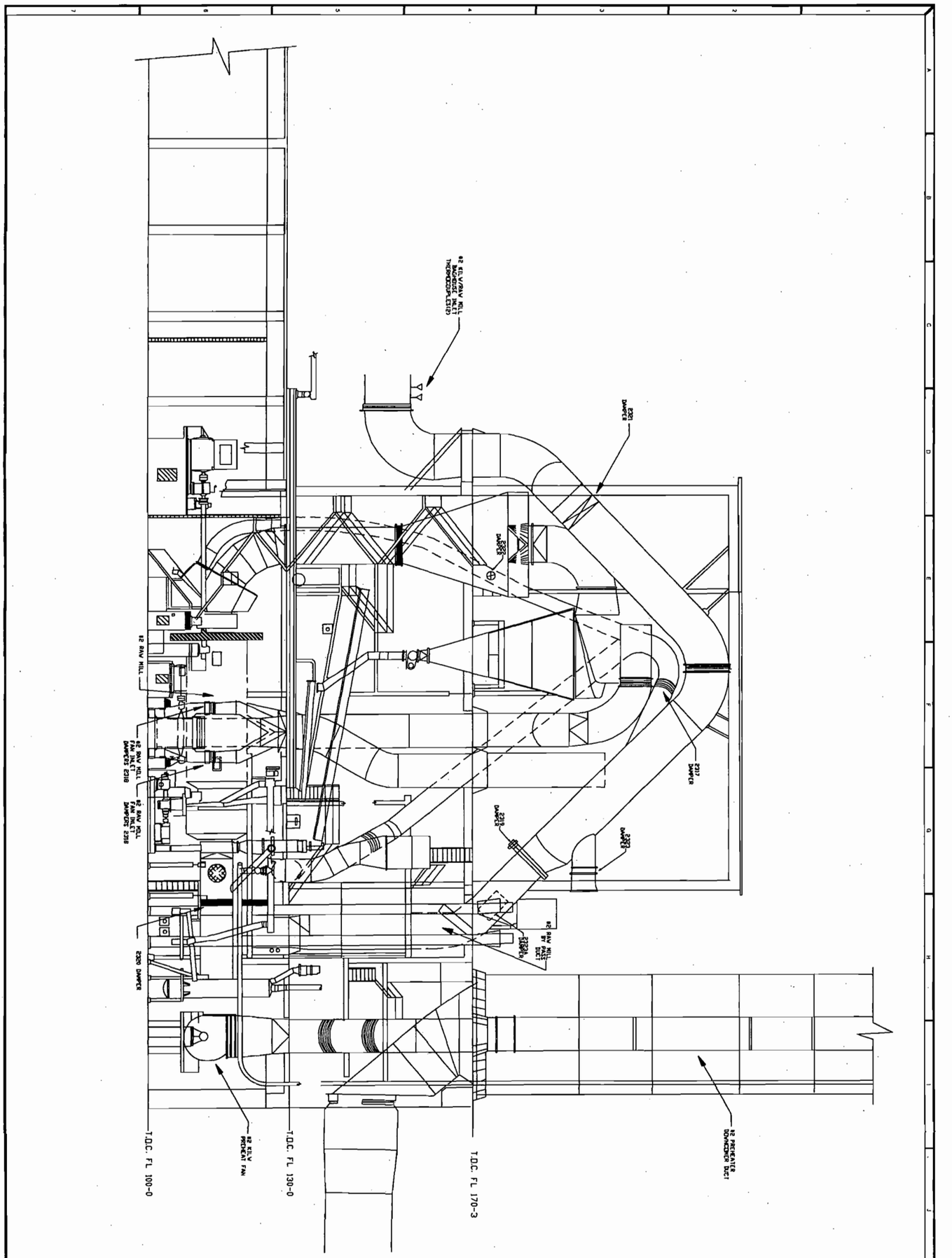
This plan shall not be used as a construction document, unless stamped "APPROVED FOR CONSTRUCTION".

NO.	REVISION	BY	DATE
REVISION HISTORY			

CIVIL-TECH CONSULTING ENGINEERS, INC.
CIVIL ENGINEERS & PLANNERS
12 South Main Street, Brooksville, FL 34601
Phone - (352) 796-8326 / Fax - (352) 799-9203
www.civil-tech.com
Registration # EB-000748

DRAWN BY	BOBBY MCKINNEY
DATE	7-18-96
SCALE	N/A
REVISED	N/A
JOB NUMBER	9608

SHEET NO.
1 OF 2



SHEET NO. 2 OF 2	PM/DRAWN BY: SJC	ENGINEER: TEK	EXAMINED AND APPROVED
	SCALE: NO SCALE		DATE:
	DATE: 7-12-06		
	REV: N/A		
	TYP: N/A		
	CHANGE: N/A		
	JOB NUMBER: 0610D		

CIVIL-TECH CONSULTING ENGINEERS, INC.
CIVIL ENGINEERS & PLANNERS
12 South Main Street, Brooksville, FL. 34601
Phone - (352) 796-6319 / Fax - (352) 799-9203
WWW.Civil-Tech.com
Registration # EB-000748

PROJECT
PROJECT

#2 RAW MILL BY PASS DUCTING

REVISION HISTORY		
DESCRIPTION	REVI. BY	DATE
REV10	REV10BY	REV10DATE
REV9	REV9BY	REV9DATE
REV8	REV8BY	REV8DATE
REV7	REV7BY	REV7DATE
REV6	REV6BY	REV6DATE
REV5	REV5BY	REV5DATE
REV4	REV4BY	REV4DATE
REV3	REV3BY	REV3DATE
REV2	REV2BY	REV2DATE
REV1	REV1BY	REV1DATE

KOOGLER & ASSOCIATES, INC.
ENVIRONMENTAL SERVICES
4014 NW 13th STREET
GAINESVILLE, FL 32609-1923
352/377-5822 • FAX/377-7158

KA 521-06-20
March 7, 2007

Mr. Al Linero
Florida Department of Environmental Protection
Division of Air Resource Management
2600 Blair Stone Road MS 5500
Tallahassee, Florida 32399-2400

RE: Permitting Projects 0530010-018-AC and -019-AC; Outstanding Questions
CEMEX Cement, Inc., Brooksville Facility ~~PSD-FL-367~~

Dear Al:

Per several telephone conversations with Cindy Mulkey, there are a few remaining questions regarding the permitting projects 0530010-018-AC (increase process rates, thallium sampling removal, etc.) and 0530010-019-AC (bypass dampers replacement). The two remaining questions have been addressed below.

Removal of Thallium Sampling from the Title V Permit

Currently, the sampling of Kiln No. 1 baghouse dust for thallium concentrations is performed daily. In the last 5 years none of these tests have shown any thallium concentrations that would exceed the permit limit of 1.5%. The area currently being mined for limestone on the plant property has gradually turned toward the southwest over the last 6 years. The old mining area directly west of the plant was mined out and closed in the mid to late 1990's.

It seems as CEMEX has moved its' mining area toward the south/southwest of the plant area, the thallium levels have dropped in the limestone, therefore, the thallium concentrations in the baghouse dust have also dropped. Because of this, CEMEX is requesting removal of the sampling requirement, or a less frequent sampling schedule (e.g., quarterly sampling) for thallium concentrations in Kiln No. 1.

Question Regarding CEMEX Violations from Previous RAI Letters

Question: Has CEMEX or its affiliates had any violations (or warning letters) related to any Department or EPA regulations at any of their facilities in Florida and the United States? Have officers of CEMEX also been officers of other companies that have had violations (or warning letters) of Department regulations at any facilities? Please provide all documentation in relation to any such violations.

Response:

Regarding violations of Department regulations, CEMEX resolved outstanding compliance issues in July 7, 2006, in Consent Order No. 05-2192. CEMEX resolved earlier compliance issues in April of 2005 in Consent Order No. 04-0685. Currently, CEMEX is investigating recent test

results indicating a D/F exceedance in Kiln 2 in raw mill down condition at the company's Brooksville, Florida cement plant. No other matters have yet to be resolved.

Regarding violations of EPA regulations and officers of CEMEX that have been officers of other companies that had violations of Department regulations, these questions seek information outside of the scope of FDEP statutes and rules. Further, the permit application is for a facility that is not comparable in many respects, to other CEMEX facilities. Moreover, in contravention of Section 403.0875, Florida Statutes, the Department's request for additional information (RAI) does not cite any regulatory authority for the question. The information contained in the permit application, including the responses to the Department's previous RAIs provide sufficient reasonable assurances.

Hopefully these responses satisfy the remaining questions regarding projects -018-AC and -019-AC, and the Department can move forward with processing this combined construction permit. If you need any additional information or have any questions, please feel free to contact me at (352) 377-5822 or FBergen@kooglerassociates.com, or Charles Walz, CEMEX Cement Inc., at (352) 799-2011, if you have any questions regarding this submittal.

Very truly yours,

KOOGLER & ASSOCIATES, INC.

Fawn W. Bergen, P.E.
Project Engineer

FB

c: T. Heron, FDEP
J. Gill, CEMEX
C. Walz, CEMEX

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 ▪ FAX/377-7158

KA 521-05-11
August 15, 2006

Via Email and USPS

Ms. Trina Vielhauer
FDEP-Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RE: Cemex Cement, Inc.
Brooksville Cement Plant
Expedited Permitting of Indirect Firing Systems for Kilns No. 1 and 2 and
FDEP File Nos. 0530010-018 and 019-AC

Dear Trina:

I'd like to express our appreciation to you, Al Linero, and Cindy Mulkey for meeting with us on such short notice on August 9, 2006 to discuss the above captioned matters. By this letter, I would like to state our understanding of matters we discussed related to the expedited permitting of indirect firing systems for Kiln No. 1 and Kiln No. 2 and related to pending air construction permit applications in FDEP Files 0530010-018 and 019-AC.

PERMITTING OF INDIRECT FIRING SYSTEMS

It is our understanding that Cemex is to provide a new and separate air construction permit application for the indirect firing system project. It is our goal to have this application in your hands on or before August 18, 2006.

In this application, we understand that we are to address the following issues:

- A review of production records – Cemex is to review clinker production records for Kiln No. 1 and Kiln No. 2 for the past 10 years. The maximum production rates for consecutive 24-month periods will be used to establish a production rate

baseline for each of the two kilns. These baseline rates plus a demand increase will be used to establish production limits that demonstrate the indirect firing systems will not increase kiln production rates.

- Emission limits – The indirect firing systems are expected to reduce NOx emissions from the two kilns and are not expected to affect the emission rates of other pollutants. Documentation of this statement will be provided in the application. As a result of there being no change in emissions, the indirect firing system project will be a non-PSD project. The emission limits that will be proposed in the indirect firing systems application for the two kilns are those that are currently permitted. The limits that have been requested in the air construction permit application assigned FDEP File No. 0530010-018-AC will continue to be addressed in the review of that application.
- Fuel use – It is expected that the indirect firing system will reduce the specific heat of production (BTU per ton of clinker). As a result, the installation of the indirect firing system should result in a reduction in fuel consumption in each of the two kilns. This matter will be addressed in the permit application.
- Indirect firing system burners – The Pillard Rotoflam® burners that were installed in Kiln No. 1 and Kiln No. 2 as part of the semi-direct firing system addressed in the air construction permit application assigned FDEP File No. 0530010-018-AC will be used for the indirect firing system. These burners will not be changed to accommodate the indirect firing system; only the delivery of fuel and combustion air to the burners will change. Because of this, it is our understanding that the permitting of the burners themselves will be addressed in the indirect firing systems application review. In the following section of this letter, Cemex will request that the permitting of the semi-direct firing system, including the burners, be withdrawn from the 0530010-018-AC application when the new application is received.

- Indirect firing project description – The general concept of indirect firing will be described including the lowering of emissions (NOx), the improvement in fuel efficiency, and the overall improvement in combustion control.
- Time-line for permit application review – During the meeting we discussed the optimal time-line for the review of the application. It was stated that the Department would require 30 days for the initial review and the preparation of a Request for Additional Information; if necessary. Following this would be another 30-day period to review any additional information and prepare a draft permit. Following this would be a 14-day period for public comment and an additional seven days to prepare the final permit. The total time in this time-line, including a few days for slippage, is approximately 90 days. We greatly appreciate the Department's willingness to work toward such a time-line and we will certainly do our part to make this time-line a reality.

FDEP FILES 0530010-018 AND 019-AC

File 0530010-018-AC (referred to henceforth as File 018) included four major projects plus several record keeping, rate changes and operating time changes to existing permit conditions for several emission units at the Brooksville Cement Plant. File 0530010-019-AC (referred to henceforth as File 019) included an air construction permit application submitted to the Department's Southwest District Office in Tampa for the after-the-fact permitting for damper modifications made to the Kiln No. 1 system.

File 018

The four major projects included in this application were the use of petroleum coke on a continuing basis in Kiln No. 1 and Kiln No. 2, the use of Tire Derived Fuel on a continuing basis in Kiln No. 2, the after-the-fact permitting of SNCR systems on Kiln No. 1 and Kiln No. 2 and the after-the-fact permitting of semi-direct firing systems on Kiln No. 1 and Kiln No. 2.

By this letter, we are requesting that the use of Tire Derived Fuel on a continuing basis in Kiln No. 2 be withdrawn from this file. The Department is in the process of issuing an air construction permit 0530010-022-AC that will authorize a trial period for firing Tire Derived Fuel in Kiln No. 2. The purpose of the trial period is to evaluate the efficacy of using Tire Derived Fuel in Kiln No. 2 and to develop real-time emission data while this fuel is being fired. It is the intent of Cemex to file a separate and new air construction permit for the use of Tire Derived Fuel on a continuing basis in Kiln No. 2 at the end of the trial period. This application will most likely be submitted in September-October 2007.

By this letter, Cemex is also withdrawing the request to use petroleum coke in Kiln No. 1 and Kiln No. 2 on a continuing basis. Cemex previously notified the Department that it was withdrawing the request to evaluate petroleum coke during the trial period that will be authorized by Permit 0530010-022-AC. The use of petroleum coke at the Brooksville Cement Plant has been put on temporary hold. At such time that Cemex decides to move forward with the use of petroleum coke, the Department will be notified and a new and separate permit application will be filed.

It is the intent of Cemex that the Department continues with the permitting of the SNCR systems for Kiln No. 1 and Kiln No. 2 as addressed in File 018. No changes have been made that will affect the permitting of these systems.

File 018 also included the after-the-fact permitting of semi-direct firing systems on Kiln No. 1 and Kiln No. 2; including the installation of Pillard Rotoflam® burners on both kilns. As stated in the preceding section, Cemex will replace the semi-direct firing systems with indirect firing systems, to be addressed in a new and separate permit application. Therefore, Cemex requests that at the time the application for the indirect

firing systems is received, the review of the semi-direct firing system, including the burner installation, be discontinued as part of File 018.

The air construction permit application in File 018 included several changes to existing permit conditions for various emission units. These changes were related to testing and record keeping, loading rate changes for bins and silos, and a change in hours of operation for the cement bag load out system. Specifically, the changes requested were:

- Cement Kiln No. 1—remove the requirement to perform daily sampling and recording of thallium concentrations in the baghouse dust;

- Cement Kiln No. 1 and No. 2—Change the requirement for liquid fuel records to be based on analysis of a sample representative of the shipment to be based on supplier's records;
- Finish Mills No. 1 and No. 2—Increase the maximum transfer rate to 105 TPH and limit the PM emissions from each mill to 9.0 lb/hr each, rather than 36 lb/hr combined and limit annual PM emissions to 39.4 TPY each kiln, rather than 157.7 TPY combined;
- Clinker Storage Silo Nos. 1 and 2—Increase the maximum silo loading rate to 93 TPH;
- Clinker Silo No. 3—Increase the maximum silo loading rate to 93 TPH;
- Raw Material Storage Silos & Feed System—Increase the maximum transfer rate to 330 TPH daily average (dry basis);
- Raw Material Pre-Mix Bin— Increase the maximum transfer rate to 330 TPH daily average (dry basis);
- Additive Material Storage Bin—Increase the maximum material transfer rate to 36 TPH; and

- Cement Bag Loadout System—Increase the maximum operating hours to 7,400 hours per year.

Cemex requests that the Department continue to process these requested permit condition changes.

Regarding the changes in the Finish Mills No. 1 and No. 2 conditions, Cemex requested a change in the material transfer rates for Finish Mills No. 1 and No. 2 and also requested a change in the particulate matter emission limits for the mills. Cemex requests that the Department continue with the processing of the transfer rate change as addressed in the application.

Regarding the particulate matter emission limits for Finish Mills No. 1 and No. 2, Cemex is requesting that the current particulate matter emission limit for the finish mills of 36 pounds per hour and 157.7 tons per year, for the two mills combined, be changed as follows:

- Hourly - 9.0 pounds PM per hour, each mill; and
- Annual - 39.4 tons PM per year, each mill.

These changes are consistent with the information previously provided to the Department in File 018. The changes will result in a reduction in permitted PM emissions of 78.9 tons per year.

File 019

It is our understanding that the after-the-fact permitting of the damper changes in the Kiln No. 1 system will be incorporated in the air construction permit that will be issued pursuant to File 018. Cemex requests that the Department proceed with the combining of these projects as suggested by the Department.

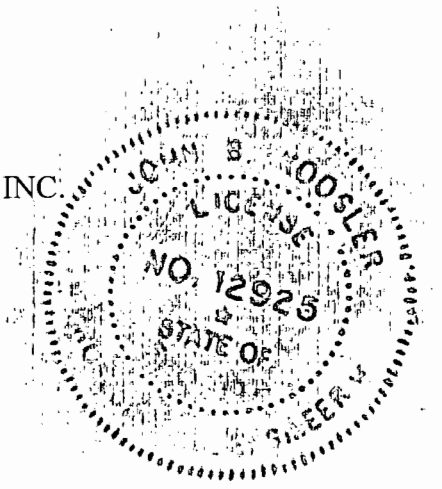
SUMMARY

This summarizes our understanding of matters related to the expedited permitting of the indirect firing systems and the changes to projects associated with Files 018 and 019. If any of our understandings are not consistent with the understandings of the Department, please let us know as soon as possible so that these matters can be resolved.

Again, we appreciate the time that you, Al Linero, and Cindy Mulkey spent with us and the time that you have already spent on the permitting of the pending projects addressed herein.

Very truly yours,

KOOGLER & ASSOCIATES, INC.



John B. Koogler, Ph.D., P.E.

JBK/lt

cc: Mr. Al Linero
Ms. Cindy Mulkey
Mr. Dan Merz
Mr. Jeet Gill
Mr. Mike Gonzales
Mr. Charlie Walz

Cemex permit file

November 15, 2005

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Michael A. Gonzoles Lorenzo Zambrano? (just joking!)
Plant Manager
CEMEX Cement, Inc.
Post Office Box 6
Brooksville, Florida 34605-0006

Re: DEP File 0530010-018-AC, PSD-FL-362
Projects at CEMEX Brooksville Plant

The Department received your permit application on October 14th and key meteorological and modeling information on October 18. The application is to conduct various projects at the CEMEX Brooksville Plant. The requests include:

- Use of up to 100% petroleum coke (petcoke) as a fuel in Kilns 1 and 2;
- Use of tire-derived fuel (TDF) in both kilns;
- Installation of new kiln burners;
- Installation of an ammonia injection system in the lower preheater of each kiln; and
- Increase transfer/production rates for various emissions units.

The Department has determined that the application is incomplete. This letter is a request for additional information (RAI) in accordance with Rule 62-4.055, F.A.C. and the Standards of Issuing or Denying permits at Rule 62.070, F.A.C.

According to the rule, the applicant shall have ninety days after the Department mails a timely request for additional information to submit that information to the Department. Failure of an applicant to provide the timely requested information by the applicable date shall result in denial of the application.

In order to continue processing your application, the department will need the additional information requested below. Should your response to any of the below items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

The following information is required to complete the application:

1. Please describe any work conducted or that will be conducted with respect to the burning of 100% petcoke. Describe the work items conducted that were excluded from Pillard's quotation submitted as Attachment 1. This includes work to convert the system from direct to semi-direct firing.
2. Describe how 100% petcoke can be used given the lack of volatile fraction to support combustion and flame.
3. Provide the procedures for receiving and storing petcoke as well as controlling dust from handling. Provide procedures related to groundwater protection.
4. Are the raw mills capable of grinding petcoke to the specifications needed and to supply a 100% petcoke fuel stream for the two kilns?
5. Petcoke contains more sulfur than coal contains. With the low alkali levels in the native limestone, how will CEMEX compensate with the greater alkali requirements inherent in burning petcoke? Will it be necessary for CEMEX to use even more of the 16% LOI fly ash and less bauxite or sand or clay?
6. Please describe any work conducted or that will be conducted with respect to burning TDF. This should include any modifications made or to be made to the existing tire burning system on Kiln 1 and the proposed system on Kiln 2. Describe the handling and feeding system.
7. Given the lack of a tertiary air duct, how will CEMEX insure that sufficient air will be available in the area of the kiln riser to insure proper combustion of TDF and burn out of CO?
8. Describe the combustion zone within the riser and lower preheater including the residence time to insure maximum burnout of CO.
9. Please describe CEMEX experience using the 16% LOI fly ash described on Page 50 with respect to CO emissions. Has CEMEX been able to use this fly ash and comply with the present CO limit of approximately 2 lb/ton clinker and dioxin/furan?
10. How will burning TDF and petcoke affect the heat balance as well as conditions related to dioxin formation and control?
11. Provide continuous emission monitoring (CEMS) data from the recently installed systems for both kilns on an hour-by-hour basis. Include ammonia injection rates and process data as well as the parameters needed to calculate CO and NO_X emissions in terms of lb/ton of feed or lb/ton of clinker.
12. Provide information from other CEMEX projects where petcoke or TDF have been used and summarize the resulting emission changes.
13. Provide information showing what the effects of ammonia injection (SNCR) have been to-date on emissions of CO. It is possible to separate the effects of SNCR on CO from the effects of petcoke, TDF, and 16% LOI fly ash. This is needed to allow a thorough BACT analysis.

Given greater V and Ni levels in petcoke, how will possible additional SAM emission be controlled?

14. Please provide a summary for the past two years of the required daily sampling and recording of baghouse dust thallium concentration described in Condition B.20 of the facility Title V Operation Permit.

15. Does CEMEX waste baghouse dust in general or to meet the mentioned thallium requirements in particular?

16. Where is the dust stored or where is it disposed or sold?

17. Has CEMEX or its affiliates had any violations (or warning letters) related to any Department or EPA regulations at any of their facilities in Florida and the United States? Have officers of CEMEX also been officers of other companies that have had violations (or warning letters) of Department regulations at any facilities? Please provide all documentation in relation to any such violations.

Basically, we need better descriptions of the petcoke and TDF projects besides the very basic descriptions provided. Please submit test protocols for trial tests using petcoke and TDF. This information is needed to determine the effects and develop procedures to minimize emissions increases such as for CO and evaluate the effects on other pollutants such as dioxin and VOC.

Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature.

If you have any questions regarding this matter, please call me at 850/921-9523.

Sincerely,

A. A. Linero, P.E.
Program Administrator
South Permitting Section

Cc: Fawn Bergen, P.E.
Mara Nasca, DEP SWD
Charles Walz, CEMEX

Debbie will ask for clarification on UTM coordinates

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE FLORIDA 32609
352.377-5822 • FAX 377-7158

Letter of Transmittal

Patty for files

DATE:	10/24/05	**PROJECT NO:**	521-05-11
TO:	FDEP, Tallahassee		
ATTENTION:	**Scott Sheplak, PE**		
REGARDING:			
CEMEX PSD application—electronic files			

WE ARE FORWARDING TO YOU THE FOLLOWING:

Copies	Description
2	CDs containing all of the electronic files

THESE ARE TRANSMITTED BY:

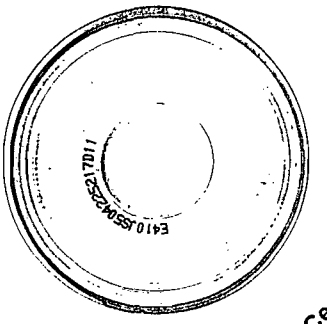
____	REGULAR MAIL	____	DELIVERED
____	OVERNIGHT	____	CLIENT PICK UP
X	2 DAY	____	OTHER: _____

REMARKS:
Scott - Enclosed please find two (2) copies of CDs containing all of the electronic files. I did not include the modeling files as these were sent separately to Cleve Holladay.

cc: _____ SIGNED: Jan Bergen

If enclosures are not as noted, kindly notify us at once.

APPLICATION FOR A PSD
CONSTRUCTION PERMIT



CEMEX Cement, Inc.
Brooksville, Hernando County, Florida
Facility ID No. 0530010
10/14/05

10/25/05

CEMEX

December 13, 2007

RECEIVED
DEC 17 2007
BUREAU OF AIR REGULATION

UPS Overnight Delivery

Ms. Teresa Heron
Department of Environmental Protection
Bureau of Air Regulation
111 South Magnolia Drive, Suite 4
Tallahassee, Florida 32399-2400

RE: CEMEX Cement, Inc
NOTICE OF APPLICATION
Proof of Publication
DEP File No. 0530010-018-AC
Hernando County

Dear Teresa:

Please find enclosed the original Proof of Publication of the public notice for the above referenced Notice of Application. The public notice is dated December 8, 2007 and ran in the Hernando Today section of the Tampa Tribune.

If there are any questions concerning this information please contact me at (352) 799-2011

Sincerely,
CEMEX Cement, Inc.

Charles E. Walz
Environmental Manager

cc: File

Brooksville Plant
16301 Ponce De Leon Boulevard, Brooksville, FL 34614. USA, (352) 796-7241, Fax (352) 754-9836

Sheplak, Scott

From: Nelson, Deborah
Sent: Thursday, November 10, 2005 5:18 PM
To: Sheplak, Scott
Cc: Linero, Alvaro
Subject: CEMEX

Scott,

I have a question concerning the CEMEX application and modeling.

1. The coordinates in the application for Kiln 1 and Kiln 2 are 356250 m E, 3168370 m N and 356300 m E, 3168380 m N respectively. In the modeling for Kiln 1 and Kiln 2, 356007 m E. 3169248 m N and 356052 m E, 3169261 m N is used. Please verify which coordinates are correct.

Thanks,

Debbie

Debbie Nelson
Meteorologist
Air Permitting South
850-921-9537
deborah.nelson@dep.state.fl.us

APPLICATION FOR A PSD
CONSTRUCTION PERMIT

CEMEX Cement, Inc.
Brooksville, Hernando County, Florida
Facility ID No. 0530010
10/14/05

CEMEX

June 20, 2006 via UPS overnight delivery

Cindy Mulkey
FDEP Bureau of Air Resource Mgt
111 S. Magnolia Dr.
Suite 23
Tallahassee, Fl 32301-2957

RE: RAI Air Construction Permit Application for Cooling Dampers
(DEP Project No. 1050010-019-AC
Responsible Official Signature pages
0530010

Dear Cindy:

Please find enclosed three original signature pages to an RAI response for the above referenced Cooling Air Dampers Project. Dr. John Koogler emailed a copy of the response to David Zell on 5/26/2006.

Thanks for your help.

Sincerely,
CEMEX Cement, Inc.

Charles E Walz

CHARLES E. WALZ
Environmental Manager
cc: File
John Koogler

RECEIVED
JUN 30 2006
BUREAU OF AIR REGULATION

United States Operations
P.O. Box 6, Brooksville, Florida. 34605-0006. USA. Phone: (352) 796-7241, Fax: (352) 754-9836

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

1. Owner/Authorized Representative Name : **Michael A. Gonzales**

2. Owner/Authorized Representative Mailing Address...
   Organization/Firm: **CEMEX Cement, Inc.**
   Street Address: **Post Office Box 6**
   City: **Brooksville** State: **Florida** Zip Code: **34605**

3. Owner/Authorized Representative Telephone Numbers...
   Telephone: **(352) 799 - 2057** ext. Fax: **(352) 754 - 9836**

4. Owner/Authorized Representative Email Address:

5. Owner/Authorized Representative Statement:

   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.

Signature

6/29/2006
Date

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

1. Owner/Authorized Representative Name : **Michael A. Gonzales**

2. Owner/Authorized Representative Mailing Address...
   Organization/Firm: **CEMEX Cement, Inc.**
   Street Address: **Post Office Box 6**
   City: **Brooksville** State: **Florida** Zip Code: **34605**

3. Owner/Authorized Representative Telephone Numbers...
   Telephone: **(352) 799 - 2057** ext. Fax: **(352) 754 - 9836**

4. Owner/Authorized Representative Email Address:

5. Owner/Authorized Representative Statement:

   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.

Signature

6/29/2006
Date

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

1. Owner/Authorized Representative Name : **Michael A. Gonzales**

2. Owner/Authorized Representative Mailing Address...
   Organization/Firm: **CEMEX Cement, Inc.**
   Street Address: **Post Office Box 6**
   City: **Brooksville** State: **Florida** Zip Code: **34605**

3. Owner/Authorized Representative Telephone Numbers...
   Telephone: **(352) 799 - 2057** ext. Fax: **(352) 754 - 9836**

4. Owner/Authorized Representative Email Address:

5. Owner/Authorized Representative Statement:

   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.

Signature

6/29/2006
Date

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 ▪ FAX/377-7158

KA 521-06-07
June 26, 2006
Confirmation of email dated May 26, 2006

David Zell
FDEP SW District Office
13051 N. Telecom Pkwy
Temple Terrace, Fl 33637

Re: Cemex Brooksville Cement Plant
FDEP Project 1050010-019-AC
Cooling Air Dampers for Kiln No. 1
Response to Second RAI

Dear David,

Following is a response to your second RAI related to the above captioned project. The responses follow numeric designation used in your RAI.

1. Damper Operation – Position Indicators for Dampers 323N and 323E and Record Keeping.

The 323N Damper has a variable position readout and the output is recorded on the PLC in the Control Room.

The 323 E Damper also has Control Room position readout. As this damper is an open or closed damper, the damper positioner reads zero percent for the closed position, when the raw mill is operating and the positioner reads 100 percent for open position when the raw mill is down.

The data from both position indicators are recorded on the PLC and archived.

2. Use of Other Dampers in the Kiln No. 1 System

Explain the function and use of the other dampers shown on the No. 1 Kiln Preheater Flow Chart (ID Nos. 317, 317a, 318, 319, 320, 321, 322, 323, 323a) and whether the position of any of these dampers would be changed during raw mill down operation.

317 This damper regulates the quantity of lift air required by the mill during operation. The damper position is variable during mill on conditions. This damper is closed when the mill is down

317A This is a manual damper and it's position is never changed.

318 This is the raw mill fan inlet damper. It is open during mill operation and closed shortly after the raw mill is shut down and the main mill fan has cooled down enough to shut down without suffering thermal heat damage.

319 This damper regulates the quantity of hot gases that are required to dry the material in the mill. This damper is slightly open during mill operating conditions. This damper is open when the raw mill is down

320 This damper is fully open when the raw mill is operating. It is fully closed when the mill is down. The damper isolates hot gases from entering the mill.

321 Open when the mill is operating and closed when the mill is down. The damper controls airflow from the raw mill fan discharge.

322 Regulates raw mill fan temperature and protects the fan from thermal damage. Opens whenever fan temp reaches 250 deg F. Its position in mill down conditions does not matter because other dampers isolate the system. (321 and 317)

323 Closed not used, disabled

323A Closed not used, disabled

As Cemex consider the operation of the 323 E and 323 N dampers as the temperature control dampers for D/F, these are the only dampers with recording positioners.

What was the position of these dampers during the June 16, 2005 D/F compliance test?

Dampers 317, 318, 320, 321, 323, 323A were all closed during the June 16, 2005 compliance test.

Damper 319 was open during the test.

Dampers 317A no change.

Damper 322 - its position in mill down conditions does not matter because other dampers isolate it from the raw mill bypass duct.

3. Particulate Matter Emissions

The use of Dampers 323N and 323E to control the temperature of kiln gases bypassing the raw mill in the Kiln No.1 system is not expected to measurably change the raw mill down gas flow rate as measured in the kiln stack. The purpose of these dampers is not to add additional cooling air to the system, the purpose is to add cooling air in a manner that will cool the bypassed gases quickly and uniformly. The placement of the dampers was based on Computational Fluid Dynamic (CFD) modeling and the effectiveness of the dampers has been demonstrated by subsequent D/F performance testing.

I trust this will satisfactorily respond to your RAI. If there are further questions or if clarification is required on any of the information provided herein, please contact me at 352-377-5822 or at jkoogler@kooglerassociates.com . A signed and sealed hard copy of this correspondence will follow.

Very truly yours,

KOOGLER & ASSOCIATES, INC.

John B. Koogler, Ph.D., P.E.
State of Florida License No. 12925

JBK/lt

Professional Engineer Certification

1. Professional Engineer Name: John B. Koogler Ph.D., P.E.
   Registration Number: 12925
2. Professional Engineer Mailing Address...
   Organization/Firm: Koogler & Associates, Inc
   Street Address: 4014 NW 13th St
   City: Gainesville State: Fl Zip Code: 32609
3. Professional Engineer Telephone Numbers...
   Telephone: (352)377- 5822 Fax: (352)377-7158
4. Professional Engineer Email Address: jkoogler@kooglerassociates.com
5. Professional Engineer Statement:

   I, the undersigned, hereby certify, except as particularly noted herein, that:*

   (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

   (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.

   (3) If the purpose of this application is to obtain a Title V air operation permit (check here ☐, 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.

   (4) If the purpose of this application is to obtain an air construction permit (check here ☒, 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 ☐, 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.

   (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 , 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.

   Signature (seal) June 26, 2006
   Date

* Attach any exception to certification statement.

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 • FAX 377-7158

Memorandum

TO: Cindy Mulkey

FROM: Lori

DATE: June 26, 2006

SUBJECT: Cemex Brooksville 1050010-019-AC

Dear Cindy,

Dr. Koogler wanted me to let you know that a hard copy is coming to you by UPS Ground Delivery tomorrow. He said the signed Responsible Official page will be sent under separate cover.

If you have any questions, please give us a call.

Thank you!

Lori

Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit for a proposed project:
- subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- at an existing federally enforceable state air operation permit (FESOP) or Title V permitted facility.

Air Operation Permit – Use this form to apply for:
- an initial federally enforceable state air operation permit (FESOP); or
- an initial/revised/renewal Title V air operation permit.

Air Construction Permit & Revised/Renewal Title V Air Operation Permit (Concurrent Processing Option) – Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: **CEMEX Cement, Inc.**
2. Site Name: **Brooksville Plant**
3. Facility Identification Number: **0530010**
4. Facility Location...
   Street Address or Other Locator: **16301 Ponce De Leon Blvd.**
   City: **Brooksville** County: **Hernando** Zip Code: **34605**
5. Relocatable Facility? ☐ Yes ☒ No
6. Existing Title V Permitted Facility? ☒ Yes ☐ No

Application Contact

1. Application Contact Name: **William A. Proses, P.E.**
2. Application Contact Mailing Address...
   Organization/Firm: **Koogler & Associates, Inc.**
   Street Address: **4014 NW 13th Street**
   City: **Gainesville** State: **Florida** Zip Code: **32609**
3. Application Contact Telephone Numbers...
   Telephone: **(352) 317 - 1030** ext. Fax: **(813) 929 - 9539**
4. Application Contact Email Address: **wproses@kooglerassociates.com**

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	11/21/05
2. Project Number(s):	0530010-019
3. PSD Number (if applicable):	

APPLICATION INFORMATION

4. Siting Number (if applicable):	

APPLICATION INFORMATION

Purpose of Application

This application for air permit is submitted to obtain: (Check one)

Air Construction Permit

[x] Air construction permit.

Air Operation Permit

[ ] Initial Title V air operation permit.
[ ] Title V air operation permit revision.
[ ] Title V air operation permit renewal.
[ ] Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
[ ] Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

[ ] Air construction permit and Title V permit revision, incorporating the proposed project.
[ ] Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

[ ] I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

This application is submitted specifically at the request of FDEP. FDEP's request is based on the assumption that the dampers are a control device for dioxin/furan formation.

The purpose of this Air Construction permit is for the installation of two dampers, 323 E and 323 N, for cooling the hot perheater exit gases, to control DF formation while the No. 1 Raw Mill is down. Dampers 323 E and 323 N achieve the cooling required to control dioxin/furan formation. Damper 323 N is automatically controlled by the baghouse inlet temperature.

No other criteria pollutants are affected by this installation and no changes in operational or emission permit limits are requested.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
003	E55 Cement Kiln No. 1	AC	0

Application Processing Fee

Check one: ☐ Attached - Amount: $_____ ☒ Not Applicable

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**

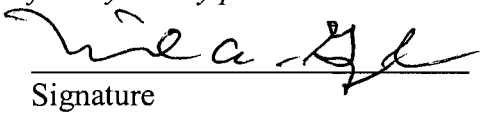
2. Owner/Authorized Representative Mailing Address...
   Organization/Firm: **CEMEX Cement, Inc.**
   Street Address: **Post Office Box 6**
   City: **Brooksville** State: **Florida** Zip Code: **34605**

3. Owner/Authorized Representative Telephone Numbers...
   Telephone: **(352) 799 - 2057** ext. Fax: **(352) 754 - 9836**

4. Owner/Authorized Representative Email Address: **mike.gonzales@cemexusa.com**

5. Owner/Authorized Representative Statement:

   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.



Signature

11/10/2005

Date

APPLICATION INFORMATION

Application Responsible Official Certification

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name: **Michael A. Gonzales**

2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):

   [X] For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.

   [ ] For a partnership or sole proprietorship, a general partner or the proprietor, respectively.

   [ ] For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.

   [ ] The designated representative at an Acid Rain source.

3. Application Responsible Official Mailing Address...
   Organization/Firm: **CEMEX**
   Street Address:
   City: **Post Office Box 6** State: **Florida** Zip Code: **34605**

4. Application Responsible Official Telephone Numbers...
   Telephone: **(352) 799 - 2057** ext. Fax: **(352) 754 - 9836**

5. Application Responsible Official Email Address: **mike.gonzales@cemexusa.com**

6. Application Responsible Official Certification:

   I, the undersigned, am a responsible official of the Title V source 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 applicable requirements identified in this application to which the Title V source 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. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.

   Signature Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: **William A. Proses**
   Registration Number: **52080**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Koogler & Associates, Inc.**
   Street Address: **4014 NW 13th Street**
   City: **Gainesville** State: **Florida** Zip Code: **32609**
3. Professional Engineer Telephone Numbers...
   Telephone: **(352) 317 - 1030** ext. Fax: **(813) 920 - 9539**
4. Professional Engineer Email Address: **wproses@kooglerassociates.com**
5. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(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

(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.

(3) If the purpose of this application is to obtain a Title V air operation permit (check here ☐, 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.

(4) If the purpose of this application is to obtain an air construction permit (check here ☒, 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 , 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.

(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 ☐, 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.

William A. Proses
Signature

4/10/05
Date

(seal)

* Attach any exception to certification statement.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone **17** East (km) **356.90** North (km) **3169.00**		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) **28/38/34 North** Longitude (DD/MM/SS) **82/28/25 West**	
3. Governmental Facility Code: **0**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **32**	6. Facility SIC(s): **3241**
7. Facility Comment :			

Facility Contact

1. Facility Contact Name: **Charles E. Walz**
2. Facility Contact Mailing Address... Organization/Firm: **CEMEX Cement, Inc.** Street Address: **Post Office Box 6** City: **Brooksville** State: **Florida** Zip Code: **34605**
3. Facility Contact Telephone Numbers: Telephone: **(352) 799 - 2011** ext. Fax: **(352) 754 - 9836**
4. Facility Contact Email Address: **charles.walz@cemexusa.com**

Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I. that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Facility Primary Responsible Official Telephone Numbers... Telephone: ( ) - ext. Fax: ( ) -
4. Facility Primary Responsible Official Email Address:

FACILITY INFORMATION

Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a "major source" and a "synthetic minor source."

1. ☐ Small Business Stationary Source	☐ Unknown
2. ☐ Synthetic Non-Title V Source	
3. ☒ Title V Source	
4. ☒ Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. ☐ Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. ☒ Major Source of Hazardous Air Pollutants (HAPs)	
7. ☐ Synthetic Minor Source of HAPs	
8. ☒ One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. ☐ One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. ☒ One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. ☐ Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment:	

FACILITY INFORMATION

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
PM	**A**	**N**
PM10	**A**	**N**
SO2	**A**	**N**
NOX	**A**	**N**
CO	**A**	**N**
VOC	**A**	**N**
DIOX	**B**	**N**

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps NA

1. Pollutant Subject to Emissions Cap	2. Facility Wide Cap [Y or N]? (all units)	3. Emissions Unit ID No.s Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap

7. Facility-Wide or Multi-Unit Emissions Cap Comment:

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ [x] Previously Submitted, Date: **3/18/05**
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ [x] Previously Submitted, Date: **3/18/05**
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ [x] Previously Submitted, Date: **3/18/05**

Additional Requirements for Air Construction Permit Applications NA

1. Area Map Showing Facility Location:
   ☐ Attached, Document ID: _____ [x] Not Applicable (existing permitted facility)
2. Description of Proposed Construction or Modification:
   [x] Attached, Document ID: **1**
3. Rule Applicability Analysis:
   [x] Attached, Document ID: **2**
4. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID: _____ [x] Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.):
   ☐ Attached, Document ID: _____ [x] Not Applicable
6. Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.):
   ☐ Attached, Document ID: _____ [x] Not Applicable
7. Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.):
   ☐ Attached, Document ID: _____ [x] Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(5)(h)5., F.A.C.):
   ☐ Attached, Document ID: _____ [x] Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(5)(e)1. and 62-212.500(4)(e), F.A.C.):
   ☐ Attached, Document ID: _____ [x] Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.):
    ☐ Attached, Document ID: _____ [x] Not Applicable

FACILITY INFORMATION

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID: _____ ☐ Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities (Required for initial/renewal applications only):
   ☐ Attached, Document ID: _____ ☐ Not Applicable (revision application)
2. Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought):
   ☐ Attached, Document ID: _____
   ☐ Not Applicable (revision application with no change in applicable requirements)
3. Compliance Report and Plan (Required for all initial/revision/renewal applications):
   ☐ Attached, Document ID: _____
   Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.
4. List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only):
   ☐ Attached, Document ID: _____
   ☐ Equipment/Activities On site but Not Required to be Individually Listed
   ☐ Not Applicable
5. Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only) :
   ☐ Attached, Document ID:_____ ☐ Not Applicable
6. Requested Changes to Current Title V Air Operation Permit:
   ☐ Attached, Document ID: _____ ☐ Not Applicable

Additional Requirements Comment

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application for air permit. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application – Where this application is used to apply for both an air construction permit and a revised/renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air construction permitting and insignificant emissions units are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION
Section [1] of [1]

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

[x] This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:
E55 Cement Kiln No. 1

3. Emissions Unit Identification Number: **003**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	**NA**	**NA**	**32**	[ ] Yes [x] No

9. Package Unit:
Manufacturer: Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:
   Fuller-Draco Custom Baghouse (Baghouse ID E-55)
   20 Cells

2. Control Device or Method Code(s): **017**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: **165 TPH**	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate: **300** million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule: hours/day weeks/year	days/week **8,760** hours/year
6. Operating Capacity/Schedule Comment: **Throughput rate is in tons per hour dry material**	

C. EMISSION POINT (STACK/VENT) INFORMATION
(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **EPN:03**	2. Emission Point Type Code: **2**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **Stack EPN:03**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Raw Mill No. 1** **Preheater** **Kiln No. 1**		
5. Discharge Type Code: **V**	6. Stack Height: **150** feet	7. Exit Diameter: **13.0** feet
8. Exit Temperature: **285°F**	9. Actual Volumetric Flow Rate: **315,000** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: **195785** dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: **17** East (km): **356.250** North (km):**3168.370**	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment:		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 7

1. Segment Description (Process/Fuel Type): **Kiln Burning**		
2. Source Classification Code (SCC): **3-05-006-06**	3. SCC Units: **Tons Processed**	
4. Maximum Hourly Rate: **165.00**	5. Maximum Annual Rate: **1,314,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: **Throughput rate is in tons per hour dry material**		

Segment Description and Rate: Segment 2 of 7

1. Segment Description (Process/Fuel Type): **Bituminous coal used in kiln (tons burned)**		
2. Source Classification Code (SCC): **3-90-002-01**	3. SCC Units: **Tons Processed**	
4. Maximum Hourly Rate: **12.00**	5. Maximum Annual Rate: **105,120.00**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash: **10.00**	9. Million Btu per SCC Unit: **25.0**
10. Segment Comment:		

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment 3 of 7

1. Segment Description (Process/Fuel Type): **Solid Waste (tires) used in kiln (tons burned)**		
2. Source Classification Code (SCC): **3-90-012-99**	3. SCC Units: **Tons Processed**	
4. Maximum Hourly Rate: **2.14**	5. Maximum Annual Rate: **18,746.00**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

Segment Description and Rate: Segment 4 of 7

1. Segment Description (Process/Fuel Type): **No. 2, 4, 5, and 6 fuel oil used in kiln.** 3?		
2. Source Classification Code (SCC): **3-90-005-02**	3. SCC Units: **Thousand Gallons Burned (all liquid fuels)**	
4. Maximum Hourly Rate: **2.10**	5. Maximum Annual Rate: **18,536.00**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **141**
10. Segment Comment: **Field 4: Range 2.1 for #2, 1.98 for #6. Liquid fuels are only used to heat kilns during startup, less than 1.5% of Kiln 1's annual total heat input. Liquod fuel heating values and sulfur content are consistent.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment 5 of 7

1. Segment Description (Process/Fuel Type): **Natural gas burned in kiln**		
2. Source Classification Code (SCC): **3-90-006-02**	3. SCC Units: **Million Cubic Feet Processed**	
4. Maximum Hourly Rate: **0.29**	5. Maximum Annual Rate: **2,540.00**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **2.5**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1025**
10. Segment Comment:		

Segment Description and Rate: Segment 6 of 7

1. Segment Description (Process/Fuel Type): **Raw material grinding and drying**		
2. Source Classification Code (SCC): **3-90-005-13**	3. SCC Units: **Tons Processed**	
4. Maximum Hourly Rate: **165**	5. Maximum Annual Rate: **1,314,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: **Throughput rate is in tons per hour dry material**		

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment 7 of 7

1. Segment Description (Process/Fuel Type): **Site generated, nonhazardous waste fuel used in kiln**		
2. Source Classification Code (SCC): **3-90-013-89**	3. SCC Units: **Thousand Gallons Burned (all liquid fuels)**	
4. Maximum Hourly Rate:	5. Maximum Annual Rate: **5.0**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **141**
10. Segment Comment: **Field 5: PSD-FL-233, Cond. B.5(h).**		

Segment Description and Rate: Segment __ of __

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate: -	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: -		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM/ PM10	**017**		**EL**
SO2			**EL**
CO			**EL**
VOC			**EL**
NOX			**EL**
DIOX			**EL**

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **29.70** lb/hour **118.00** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): **5.80 to 6.80 tons/year**	
6. Emission Factor: **0.18 lb/ton** Reference: **PSD-FL-233**	7. Emissions Method Code: **0**
8. Calculation of Emissions:	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **Field 6 based on lb/ton preheater feed.** **No change in PM Potential Emissions.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **Rule**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.18 lb/ton	4. Equivalent Allowable Emissions: **29.70** lb/hour **118.99** tons/year
5. Method of Compliance: **EPA Method 5, 3 1-hour runs annually**	
6. Allowable Emissions Comment (Description of Operating Method): **Field 3 based on lb/ton preheater feed** **BACT per 62-212.400** **This is more stringent than 40 CFR Part 60, Subpart F and is therefore controlling.** **No change in PM emissions limitation is requested.**	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **SO2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **16.50** lb/hour **66.00** tons/year	4. Synthetically Limited? ☐ Yes [x] No
5. Range of Estimated Fugitive Emissions (as applicable):	
6. Emission Factor: **0.10 lb/ton** Reference: **PSD-FL-233**	7. Emissions Method Code: **0**
8. Calculation of Emissions:	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **Field 6 based on lb/ton preheater feed** **No change in SO2 Potential Emissions.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.10 lb/ton**	4. Equivalent Allowable Emissions: **16.50** lb/hour **66.00** tons/year
5. Method of Compliance: **EPA Method 6C, 3 1-hour runs annually**	
6. Allowable Emissions Comment (Description of Operating Method): **BACT per 62-212.400** **No change in SO2 emissions limitation is requested.**	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **198.00** lb/hour **788.00** tons/year	4. Synthetically Limited? ☐ Yes [x] No
5. Range of Estimated Fugitive Emissions (as applicable):	
6. Emission Factor: **1.20 lb/ton** Reference: **PSD-FL-233**	7. Emissions Method Code: **0**
8. Calculation of Emissions:	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **Field 6 based on lb/ton preheater feed** **No change in CO Potential Emissions.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **1**

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.20 lb/ton**	4. Equivalent Allowable Emissions: **198.00** lb/hour **788.00** tons/year
5. Method of Compliance: **EPA Method 10, 3 1-hour runs annually**	
6. Allowable Emissions Comment (Description of Operating Method): **Field 3 based on preheater feed.** **BACT per 62-212.400** **No change in CO emissions limitation is requested.**	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **NOX**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **301.00** lb/hour **1,205.00** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable):	
6. Emission Factor: **1.83 lb/ton** Reference: **PSD-FL-233**	7. Emissions Method Code: **0**
8. Calculation of Emissions:	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **Field 6 based on lb/ton preheater feed** **No change in NOX Potential Emissions.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.83 lb/ton**	4. Equivalent Allowable Emissions: **301.00** lb/hour **1,205.00** tons/year
5. Method of Compliance: **EPA Method 7E, 3 1-hour runs annually**	
6. Allowable Emissions Comment (Description of Operating Method): **Field 3 based on preheater feed.** **BACT per 62-212.400** **No change in NOX emissions limitation is requested.**	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **14.90** lb/hour **60.00** tons/year	4. Synthetically Limited? ☐ Yes [x] No
5. Range of Estimated Fugitive Emissions (as applicable):	
6. Emission Factor: **0.09 lb/ton** Reference: **PSD-FL-233**	7. Emissions Method Code: **0**
8. Calculation of Emissions:	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **Field 6 based on lb/ton preheater feed** **No change in VOC Potential Emissions.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **1**

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.09 lb/ton**	4. Equivalent Allowable Emissions: **14.90** lb/hour **60.00** tons/year
5. Method of Compliance: **EPA Method 25A, initial only**	
6. Allowable Emissions Comment (Description of Operating Method): **Field 3 based on preheater feed.** **BACT per 62-212.400** **No change in VOC emissions limitation is requested.**	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **DIOX**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **$1.23X10^{-7}$** lb/hour **$5.4X10^{-7}$** tons/year	4. Synthetically Limited? ☐ Yes [x] No
5. Range of Estimated Fugitive Emissions (as applicable):	
6. Emission Factor: Reference: **40 CFR 63 Subpart LLL**	7. Emissions Method Code: **0**
8. Calculation of Emissions:	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **0.40 ng TEQ/dscm ($1.7X10^{-10}$ gr/dscf) when the average of the performance test run average particulate matter control device (PMCD) inlet temperature is 204° C (400° F) 40 CFR 63 Subpart LLL. This modification allows operation within permit limits while the No. 1 Raw Mill is down.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **1**

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: lb/ton	4. Equivalent Allowable Emissions: **$1.23X10^{-7}$** lb/hour **$5.4X10^{-7}$** tons/year
5. Method of Compliance: **EPA Method 23**	
6. Allowable Emissions Comment (Description of Operating Method): **0.40 ng TEQ/dscm ($1.7X10^{-10}$ gr/dscf) when the average of the performance test run average particulate matter control device (PMCD) inlet temperature is 204° C (400° F) 40 CFR 63 Subpart LLL**	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

G. VISIBLE EMISSIONS INFORMATION

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: [x] Rule [ ] Other
3. Allowable Opacity: Normal Conditions: **20 %** Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **EPA Method 9 - 60-min. test annually**	
5. Visible Emissions Comment: **40 CFR 60.62(a)(2)** **PSD-FL-233**	

Visible Emissions Limitation: Visible Emissions Limitation ___ of ___

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: [ ] Rule [ ] Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code: **VE**	2. Pollutant(s):
3. CMS Requirement:	[x] Rule [ ] Other
4. Monitor Information... Manufacturer: **Lear Seigler** Model Number: **1100M**	Serial Number: **1287**
5. Installation Date: **12-Jan-1991**	6. Performance Specification Test Date: **01-Dec-1991**
7. Continuous Monitor Comment: **40 CFR 60.63(b)**	

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ ] Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **3/18/05**

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **3/18/05**

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **1** ☐ Previously Submitted, Date _____

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **3/18/05**
   ☐ Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date **3/18/05**
   ☐ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☒ Previously Submitted, Date: 06/16/05
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☐ To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☒ Not Applicable

   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
☐ Attached, Document ID: _____ [x] Not Applicable

EMISSIONS UNIT INFORMATION
Section [1] of [1]

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e))
   [x] Attached, Document ID: 1 ☐ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.)
   ☐ Attached, Document ID: _____ [x] Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: _____ [x] Not Applicable

Additional Requirements for Title V Air Operation Permit Applications NA

1. Identification of Applicable Requirements
   ☐ Attached, Document ID: _____
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: _____ ☐ Not Applicable
3. Alternative Methods of Operation
   ☐ Attached, Document ID: _____ ☐ Not Applicable
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: _____ ☐ Not Applicable
5. Acid Rain Part Application
   ☐ Certificate of Representation (EPA Form No. 7610-1)
      ☐ Copy Attached, Document ID:
   ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Not Applicable

Additional Requirements Comment

Two dampers were installed for cooling the hot preheater exit gases when the No. 1 Raw Mill is down. Dampers 323 E and 323 N achieve the cooling required to control dioxin/furan formation. Damper 323 N is automatically controlled by the baghouse inlet temperature

- June 16, 2005 test results confirm CEMEX's findings regarding the importance of gas cooling techniques to prevent the formation of DF.
- With efficient air cooling and mixing, D/F formation is prohibited and raw material mix designs are not relevant.
- An engineering study was conducted to model raw mill bypass cooling systems
  - Compare cooling efficiencies of Kiln #1 and Kiln #2
  - Identify potential for temperature stratification
  - Predict temperature gradient across ducting
  - Demonstrate air flow mixing efficiencies
  - Determine recommended cooling system Kiln #1

The Power Point presentation provided to the Florida Department of Environmental Protection April 19, 2005, outlining the testing that established the need for dampers 323 E and 323 N and a diagram of the damper locations is attached.

CEMEX, Inc.
Brooksville Cement Plant
Compliance Tests
March/April 2005

Compliance Tests March/April 2005

- Compliance tests conducted March 27, 2005 - April 2, 2005
- Kiln #1 and Kiln #2 Mill-off Conditions
- Demonstrate compliance using a higher percentage fly ash mix design

Compliance Test Results

- Kiln #2
  - Total Fly Ash 13.9% (Wet 7.5%, Dry 6.4%)
  - DF 0.043 ng/dscm @7% O2 (average of 3 runs)
- Kiln #1
  - Total Fly Ash 13.6% (Wet 6.8%, Dry 6.8%)
  - DF 2.479 ng/dscm @7% O2 (average of 3 runs)

Mix Component %	7-30-04 Kiln #2 Compliance Test Bauxite	8-6-04 Kiln #1 Compliance Test Bauxite	12-01-04 Kiln #2 Diagnostic Test Clay	3-31-05 Kiln #2 Compliance Test Increased Fly Ash	4-1-05 Kiln #1 Compliance Test Increased Fly Ash	2005 Mixed Design Post Outage Pending Retest
Limestone	79	77.6	77.3	77.3	77.2	78.4
Sand	7	7.4	0.9	7.6	8.2	4.5
Dry Fly Ash	3.5	4.0	4.3	6.4	6.8	5.0
Wet Fly Ash	6.5	6.5	4.3	7.5	6.8	4.6
Bauxite	3.5	4.0	-	-	-	-
Clay	-	-	12.9	-	-	6.9
MillScale	0.5	0.5	0.4	1.2	1.0	0.5
DF TEQ ng/dscm 7% O2	0.051	0.166	0.054	0.043	2.479	TBD

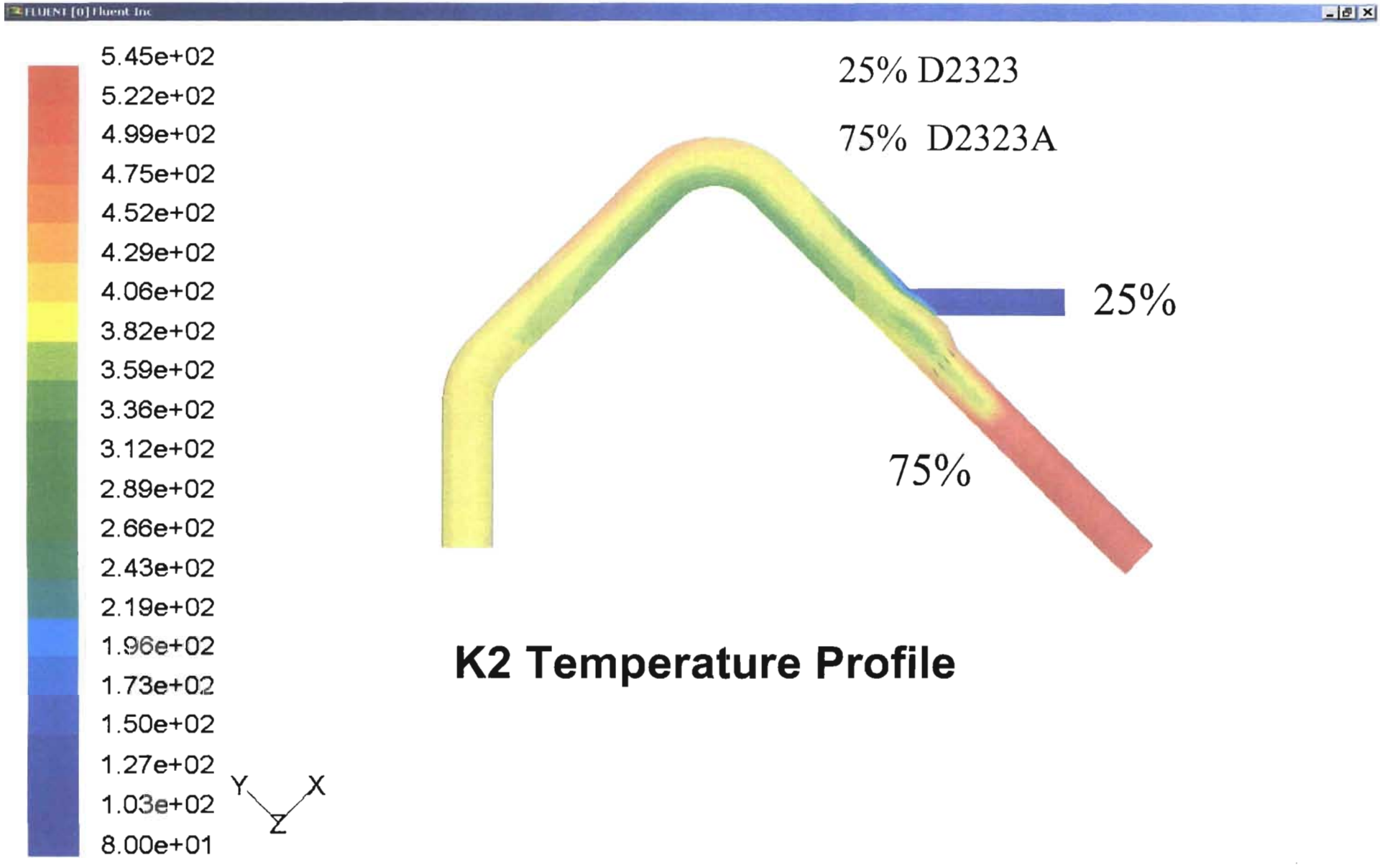
Data Evaluation

- Test results confirm CEMEX's findings regarding the importance of gas cooling techniques to prevent the formation of DF.
- With efficient air cooling and mixing, D/F formation is prohibited and raw material mix designs are not relevant.
- Kiln #2 DF Test Results with Raw Mill Bypass Cooling Technique
  - 0.051 ng/dscm Bauxite Mix
  - 0.054 ng/dscm Clay Mix
  - 0.043 ng/dscm Higher Fly Ash Mix

Bypass Cooling Efficiencies Study

- Questions?
  - Why did Kiln #1 pass in August 2004 and fail in April 2005?
  - Why does Kiln #2 consistently test lower than Kiln #1?
- Engineering study to model raw mill bypass cooling systems
  - Compare cooling efficiencies of Kiln #1 and Kiln #2
  - Identify potential for temperature stratification
  - Predict temperature gradient across ducting
  - Demonstrate air flow mixing efficiencies
  - Determine recommended cooling system Kiln #1

CFD Modeling of Brooksville K-1 and K-2 Raw Mill Bypass Ducts



K2 Temperature Profile

Contours of Static Temperature (f)

Apr 17, 2005
FLUENT 6.1 (3d, segregated, ske)

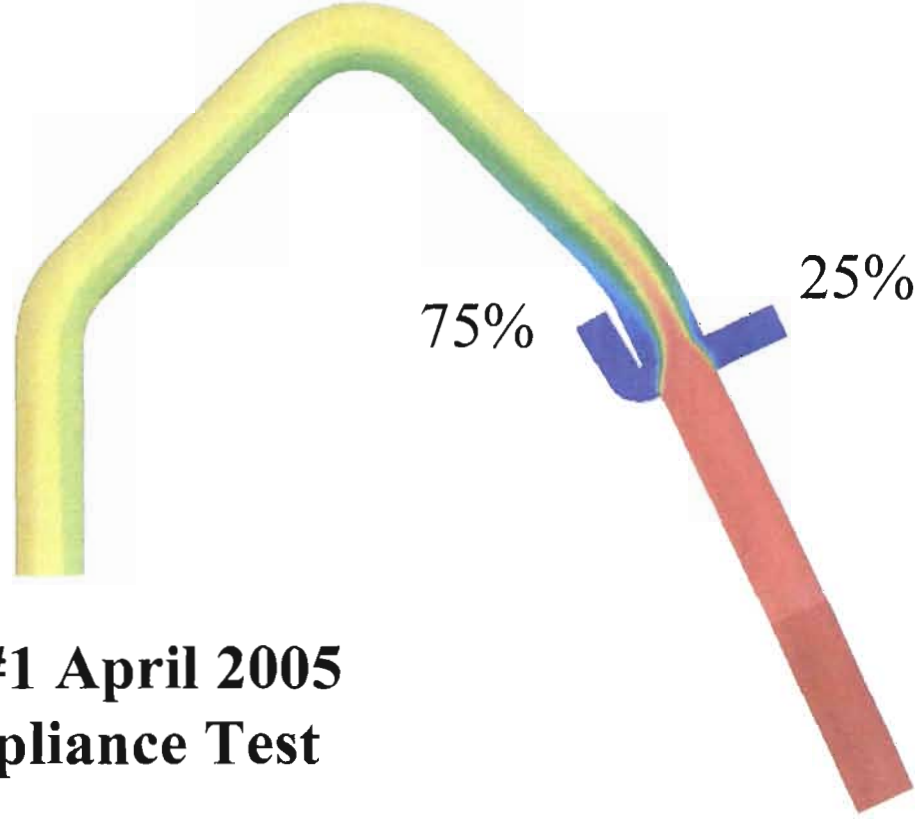
FLUENT [0] Fluent Inc

25% Cooling Flow in D323

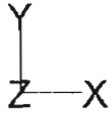
75% Cooling Flow in D323A

No Cooling Flow Lift Air 4'

No Cooling Flow New 4'



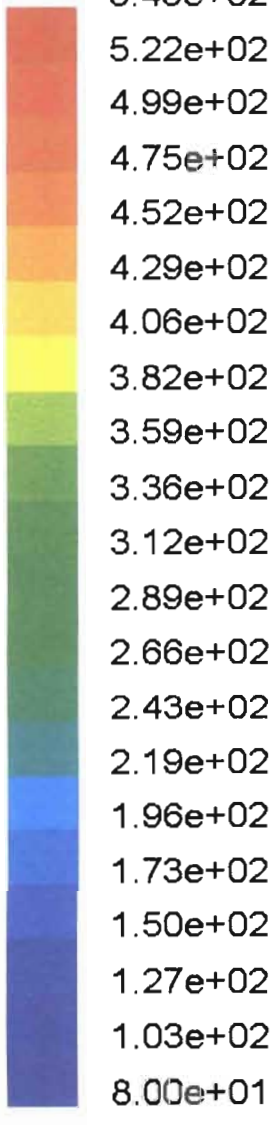
Kiln #1 April 2005
Compliance Test



Contours of Static Temperature (f)

Apr 17, 2005
FLUENT 6.1 (3d, segregated, ske)

FLUENT [0] Fluent Inc

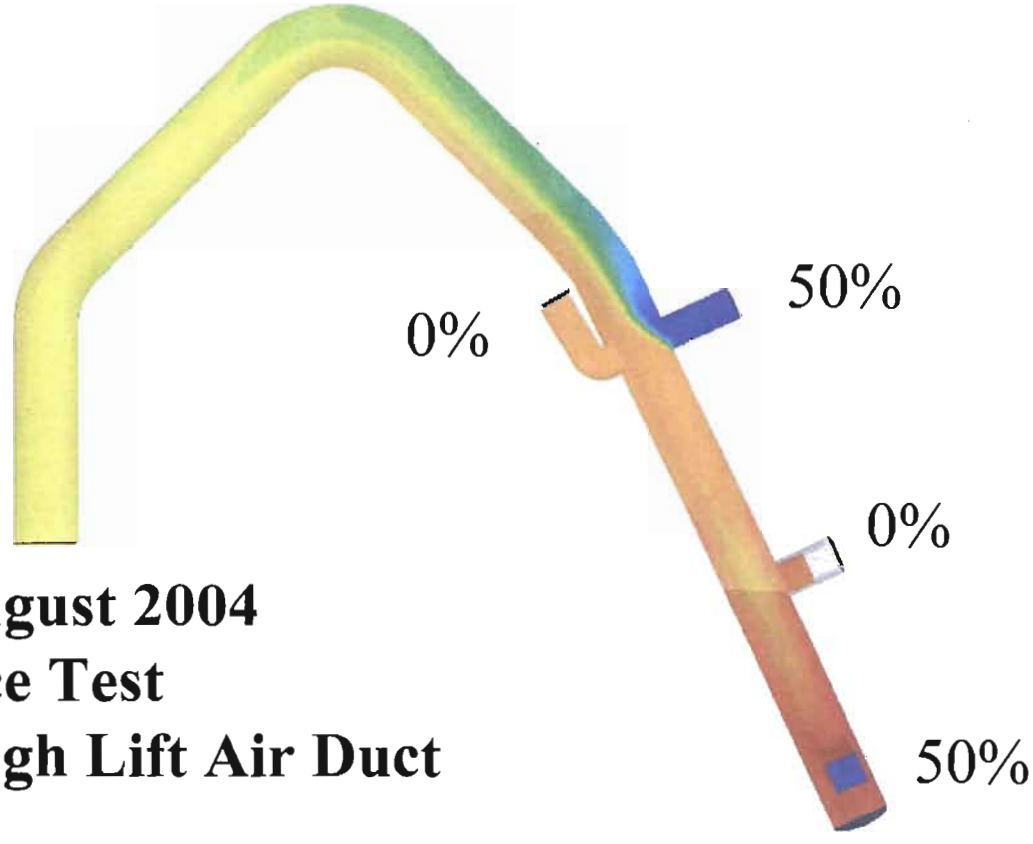


50% Cooling Flow in D323

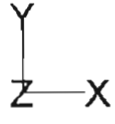
0% Cooling Flow in D323A

50% Cooling Flow Lift Air 4'

0% Cooling Flow 4'

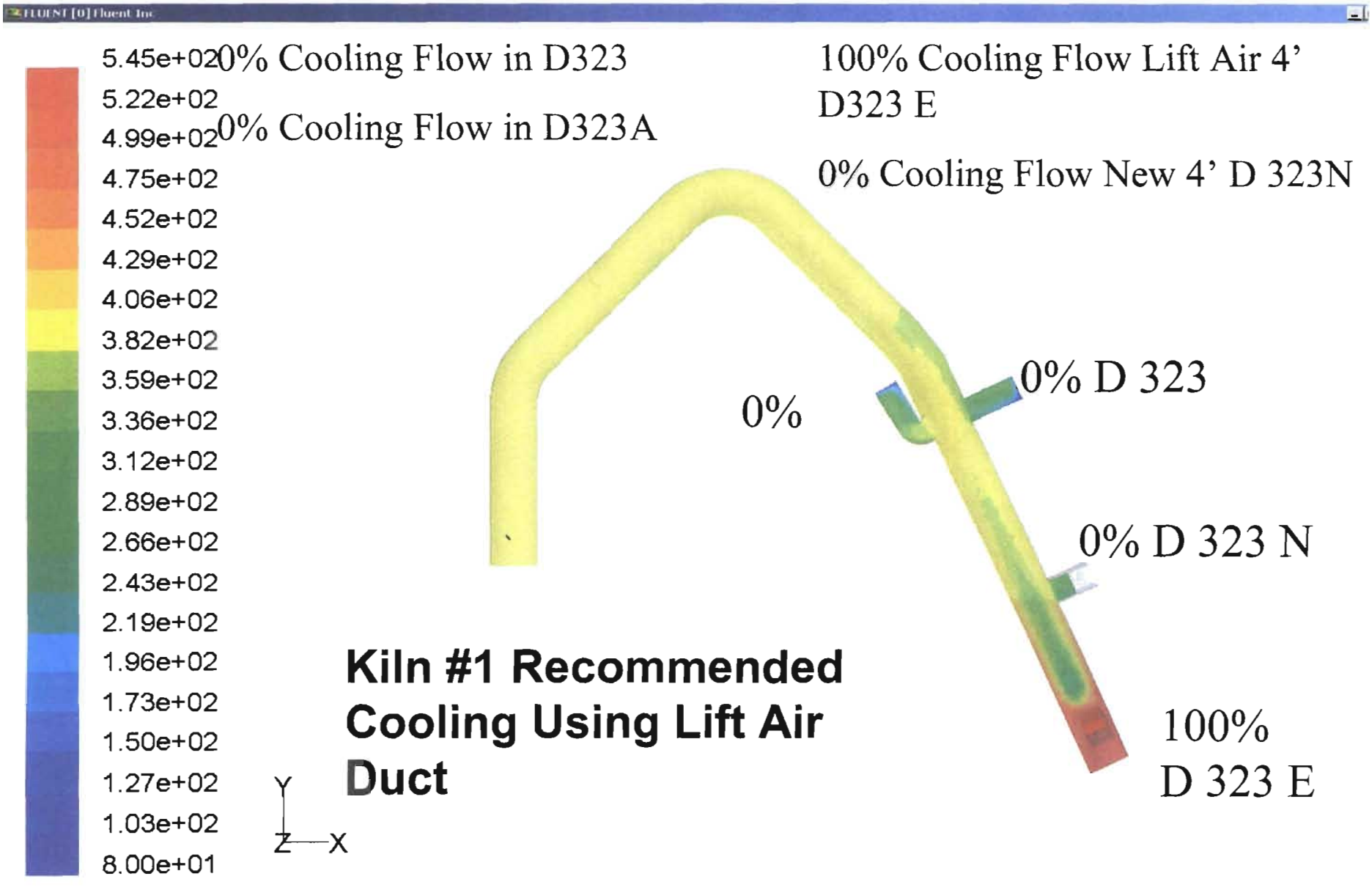


Kiln #1 August 2004
Compliance Test
50% through Lift Air Duct



Contours of Static Temperature (f) BVRawMillBypassK1_50_0_50_0

Apr 18, 2005
FLUENT 6.1 (3d, segregated, ske)



Contours of Static Temperature (f BVRawMillBypassK1_0_0_100_0

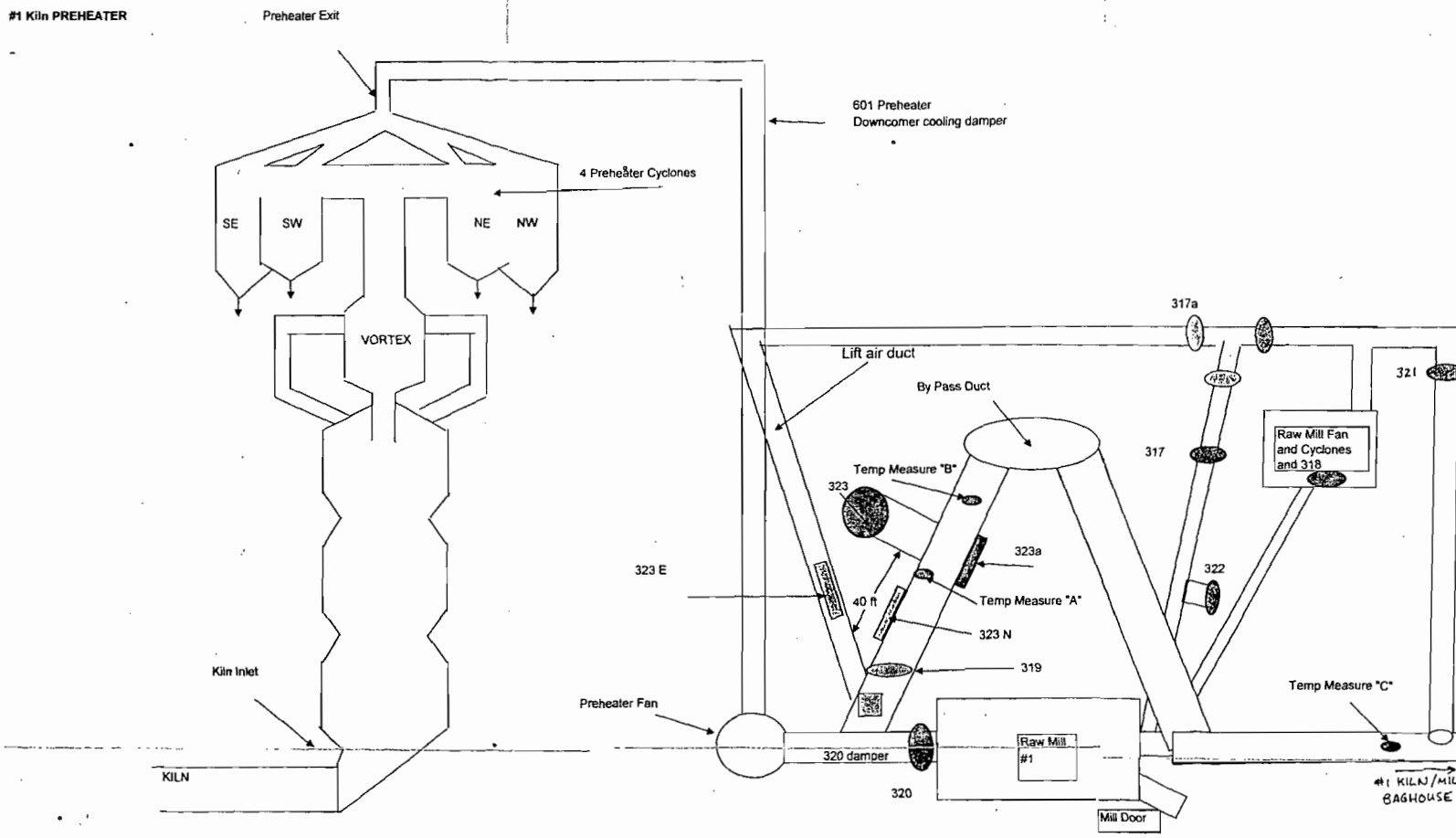
Apr 18, 200
FLUENT 6.1 (3d, segregated, ske

CEMEX Action Plan

- Utilize Kiln #1 Lift Air Duct During Mill-Off Conditions
- Utilize Clay Mix Design
- Retest Kiln #1 Higher Fly Ash Mix Design

CEMEX INC. BROOKSVILLE PLANT

#1 Kiln PREHEATER



Attachment 2 - Rule Applicability Analysis

Federal:

40 CFR 60 Subpart A

40 CFR 60 Subpart F

40 CFR 63 Subpart A

40 CFR 63 Subpart LLL

State:

62-4.130

62-4.160

62-210.300

62-210.370(3)

62-210.650

62-210.700

62-213.440(3)

62-296.320(4)(c)

62-4.297

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 ▪ FAX/377-7158

KA 521-06-02
July 13, 2006

Via UPS Ground

Ms. Mara G. Nasca, Administrator of Air Programs
FDEP SW District Office
13051 N Telecom Pkwy
Temple Terrace, FL 33637-0926

RE: Cemex Cement, Inc.
OGC File No. 05-2192

Dear Ms. Nasca:

In accordance with requirements of the Consent Order issued pursuant to the above captioned OGC file, Cemex Cement, Inc. (Cemex) is providing herewith four (4) copies of the information required by Paragraph 22 of the Consent Order. The information herein relates to the No. 1 and No. 2 Kiln/Raw Mill systems at the Cemex Brooksville, Florida Cement Plant.

In summary, the information provided herein documents the procedures Cemex employs to cool the preheater gases bypassing the No. 1 and No. 2 Raw Mills. The information includes procedures followed by Cemex personnel for positioning dampers in the ductwork surrounding the No. 1 and No. 2 Raw Mills, documentation of the parameters monitored during the operations of the No. 1 and No. 2 Kiln Systems and drawings, diagrams, and photographs showing the ductwork and dampers associated with the No. 1 and No. 2 Raw Mills.

If there are questions regarding any of the information provided herein or if additional information is required, please do not hesitate to contact me at 352-377-5822 or jkoogler@kooglerassociates.com.

Very truly yours,

KOOGLER & ASSOCIATES

John B. Koogler, Ph.D., P.E.

JBK/lt

Attachments

cc: Trina Vielhauer
Leslie White, Esq., Cemex
Dan Merz, Cemex
Lillian Deprimo, Cemex
Jeet Gill, Cemex
Mike Gonzales, Cemex
Charlie Walz, Cemex
Segundo Fernandez
Tim Atkinson

INFORMATION REQUIRED BY PARAGRAPH 22 OF THE CONSENT ORDER IN OGC FILE NO. 05-2192

22.b. **Detailed information on cooling techniques used to minimize exhaust gas cooling time and residence time in the D/F formation zone.**

Response

CEMEX controls the formation of D/F using two fresh air dampers designated 323E and 323N on the No. 1 Kiln and two fresh air dampers designated as 2323A and 2323 for the No. 2 Kiln. These dampers draw ambient cooling air into the bypass ducts located in the respective raw mill buildings.

When a raw mill is shut down the control room operators will initiate the Control Operating Procedures (see Attachment A) that are posted in the Control Room. These procedures consist of a series of damper changes in each raw mill duct system that have been established to achieve the bypass cooling of the preheater gases thus preventing the formation of D/F. The two fresh air dampers, 323E (No. 1 Raw Mill) and 2323A (No. 2 Raw Mill), are totally closed when the raw mills are operating and 100 percent open when the raw mills are shut down. The two fresh air dampers, 323N (No. 1 Raw Mill) and 2323 (No. 2 Raw Mill), modulate to control the inlet temperatures into the main kiln raw mill baghouse on each side in the raw mill up and raw mill down operating modes.

Each baghouse inlet temperature has a controlling set point that is used to regulate the automatic damper actuators to open or close Dampers 323N and 2323 so that each temperature set point is automatically maintained. The damper positions of these four dampers are currently being recorded and archived.

To achieve bypass cooling on the No. 1 Raw Mill (Raw Mill DOWN), dampers 317, 318, 320, 321 and 322 must all be closed and damper 319 is fully open. On the No. 2 side (Raw Mill DOWN), dampers 2317, 2318, 2320, 2321 and 2322 are all closed and damper 2319 is fully opened.

22.b.(i) **Temperature readings from temperature probe locations currently located in the raw mill bypass ducts.**

Response

The only temperature probes located in the raw mill bypass ducts are the thermocouples located in the inlet ducting of both kiln/mill baghouses as required by the MACT regulations (See Attachment B). Each location contains two permanently mounted thermocouples. Only temperature readings from one of these thermocouples on each side is recorded and archived in a computer. The other thermocouple serves as a back up in case the other fails.

22.b.(ii) **Detailed engineering drawings of the ductwork and damper locations.**

Response

See Attachment B.

22.b.(iii) **Process flow diagrams.**

Response

Included in Attachment C are Process Flow Diagrams for the Raw Mill No. 1 up and down operating modes and similar Process Flow Diagrams for Raw Mill No. 2.

22.b.(iv) **Photographs of the current raw mill bypass exhaust gas cooling systems.**

Response

See Attachment D.

22.c.(i) **Detailed information on control room parameters, including damper positions and for adjustable dampers, tracking the size of damper opening(s).**

Response

Refer to Response 22.b. and Attachments A and C. The degree of opening (0-100 percent) for modulating dampers 323N (Raw Mill No. 1) and 2323 (Raw Mill No. 2) are recorded and archived in the Control Room. The other dampers are open/closed dampers and the positions of these dampers are indicated in the Control Room, but not recorded and archived.

22.c.(ii) **Records of air flows.**

Response

No air flow measurements are made in the bypass ducting of either raw mill.

22.c.(iii) **Records of temperature readings in the raw mill bypass ducts.**

Response

Refer to Response 22.b.(i). No temperature measurements are made in the ducting at either Raw Mill No. 1 or No. 2. The only temperatures monitored and archived are those at the inlets of the No. 1 and No. 2 Kiln/Raw Mill baghouses.

22.c.(iv) **Other similar data collected when transitioning to, and operating in, the "raw mill off" and "raw mill on" modes, and in the "SNCR off" and "SNCR on" modes.**

Response

The data recorded and archived, data indicated but not recorded and operating procedures related to the raw mills have been addressed in the preceding responses. These procedures are followed whether or not SNCR is employed. At the present time, SNCR is employed essentially 100 percent of the time on Kiln No. 1 and Kiln No. 2.

22.d. **Cemex's plan for monitoring and maintaining records of Control Room parameters.**

Response

Cemex proposes to continue with the procedures detailed in the preceding responses to assure that D/F emissions will not exceed applicable limits.

PROFESSIONAL ENGINEER CERTIFICATION

Professional Engineer Name: John B. Koogler, Ph.D., P.E.

Florida P.E. Registration No.: 12925

Professional Engineer Mailing Address: Koogler & Associates, Inc.
4014 NW 13th Street
Gainesville, FL 32609-1923

Professional Engineer Telephone No.: 352.377.5822

Professional Engineer Email Address: jkoogler@kooglerassociates.com

Professional Engineer Certification:

I, the undersigned, hereby certify that the information provided herein has been prepared by me, prepared under my supervision or thoroughly reviewed by me. I further certify, based on information and belief formed after reasonable inquiry, that the information and statements provided herein are true, accurate, and complete. I further certify that, to the best of my knowledge, the information provided in Attachment A includes the procedures routinely used by Cemex Brooksville, Florida Cement Plant operators when transitioning from one raw mill operating mode to another; that the data monitoring, recording and/or archiving described herein are procedures routinely used by Cemex Brooksville, Florida Cement Plant operators; and that the engineering drawings, process flow diagrams and photographs reasonably represent the ductwork and damper locations associated with Raw Mill No. 1 and Raw Mill No. 2 located at the Cemex Brooksville, Florida Cement Plant.

John B. Koogler, Ph.D., P.E.

State of Florida
License No. 12925

7/13/2006
Date

KOOGLER & ASSOCIATES, INC.
ENVIRONMENTAL SERVICES

Attachment A
Control Operating Procedures

KOOGLER & ASSOCIATES, INC.
ENVIRONMENTAL SERVICES

CEMEX Brooksville Cement Plant

Control Operating Procedure for Kiln #1 when the Raw Mill is operating and when it goes down.

The Bag House Inlet temperature limit when the Raw Mill is operating is now 250 deg F.

The maximum kiln feed rate with the raw mill running is 151 tph.

The Bag House Inlet temperature limit when the Raw Mill is not operating is now 367 deg F.

The maximum kiln feed rate with the raw mill down is 124 tph.

The following steps must be followed whenever the No. 1 Raw Mill goes down in order to control dioxin/furan emissions. The bag house inlet temperature must stay below 367 deg F at all times after the mill is shut down. The order of the following steps may change due to varying operating conditions

Open the 319 damper

Fully close the 317 damper.

Open 323E damper 100%.

Shut down the raw mill fan when the temperature allows it and close the 318 dampers.

Fully close the 322 damper.

Fully close the 321 damper.

The 323N fresh air damper will modulate as required to maintain the bag house inlet temperature at less than 368 deg F. The max kiln feed rate of 124 tph cannot be exceeded while the mill is down

Close the 320 damper to fully isolate the mill.

The max kiln feed rate of 124 cannot be exceeded while the mill is down.

Adjust the main bag house fan damper as required to draft the system.

CEMEX Brooksville Cement Plant

Control Operating Procedure for Kiln #2 when the Raw Mill is operating and when it goes down.

The Bag House Inlet temperature limit when the Raw Mill is operating is now 250 deg F.

The maximum kiln feed rate with the raw mill running is 148 tph

The Bag House Inlet temperature limit when the Raw Mill is not operating is now 395 deg F.

The maximum kiln feed rate with the raw mill down is 133 tph.

The following steps must be followed whenever the No. 2 Raw Mill goes down in order to control dioxin/furan emissions. The bag house inlet temperature must stay below 395 deg F at all times after the mill is shut down. The order of the following steps may change due to varying operating conditions.

Open the 2319 damper.

Fully close the 2317 damper.

Open the 2323A damper 100 %

Shut down the raw mill fan when the temperature allows it and close the 2318 dampers.

Fully close the 2322 damper.

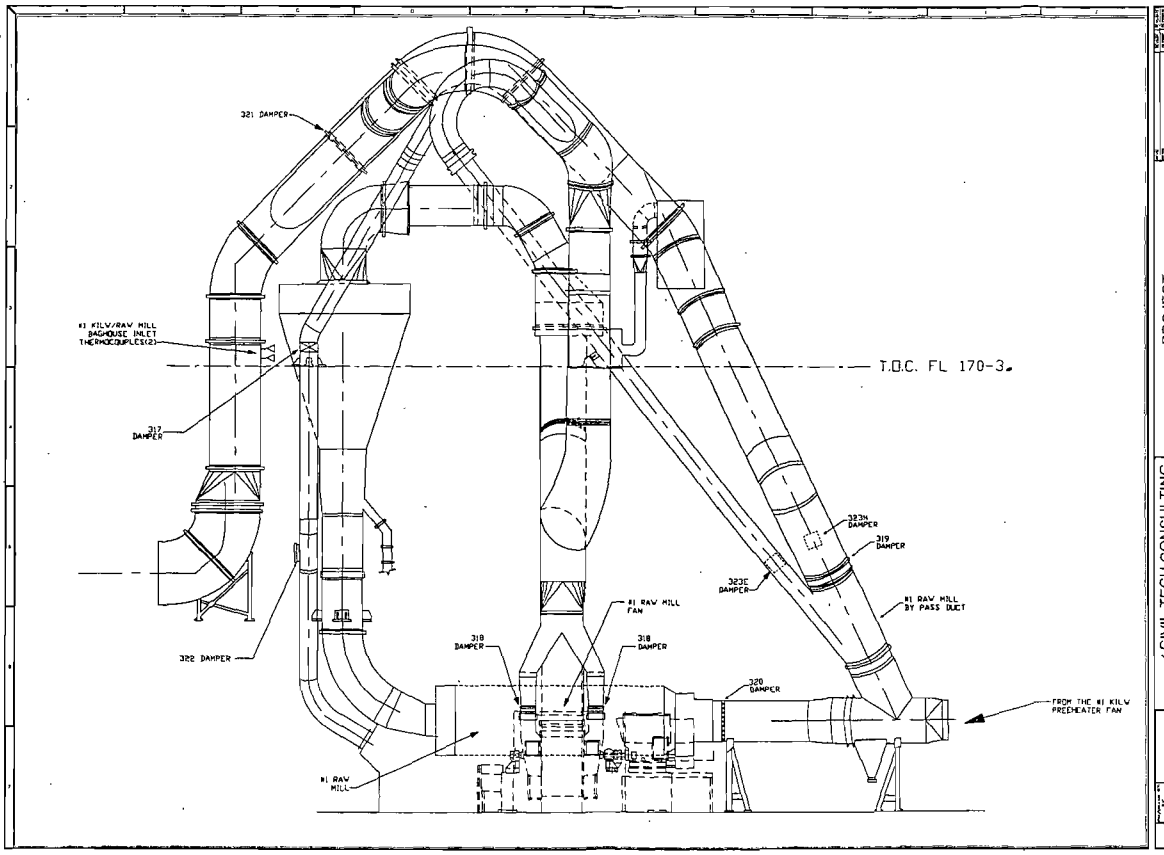
Fully close the 2321 damper.

The 2323 fresh air damper will modulate as required to maintain the bag house inlet temperature at less than 395 deg F. The max kiln feed rate of 133 tph cannot be exceeded while the mill is down.

Close the 2320 damper to fully isolate the mill.

Adjust the main bag house fan damper as required to draft the system.

Attachment D
Photographs of No. 1 and No. 2 Raw Mill Ducting



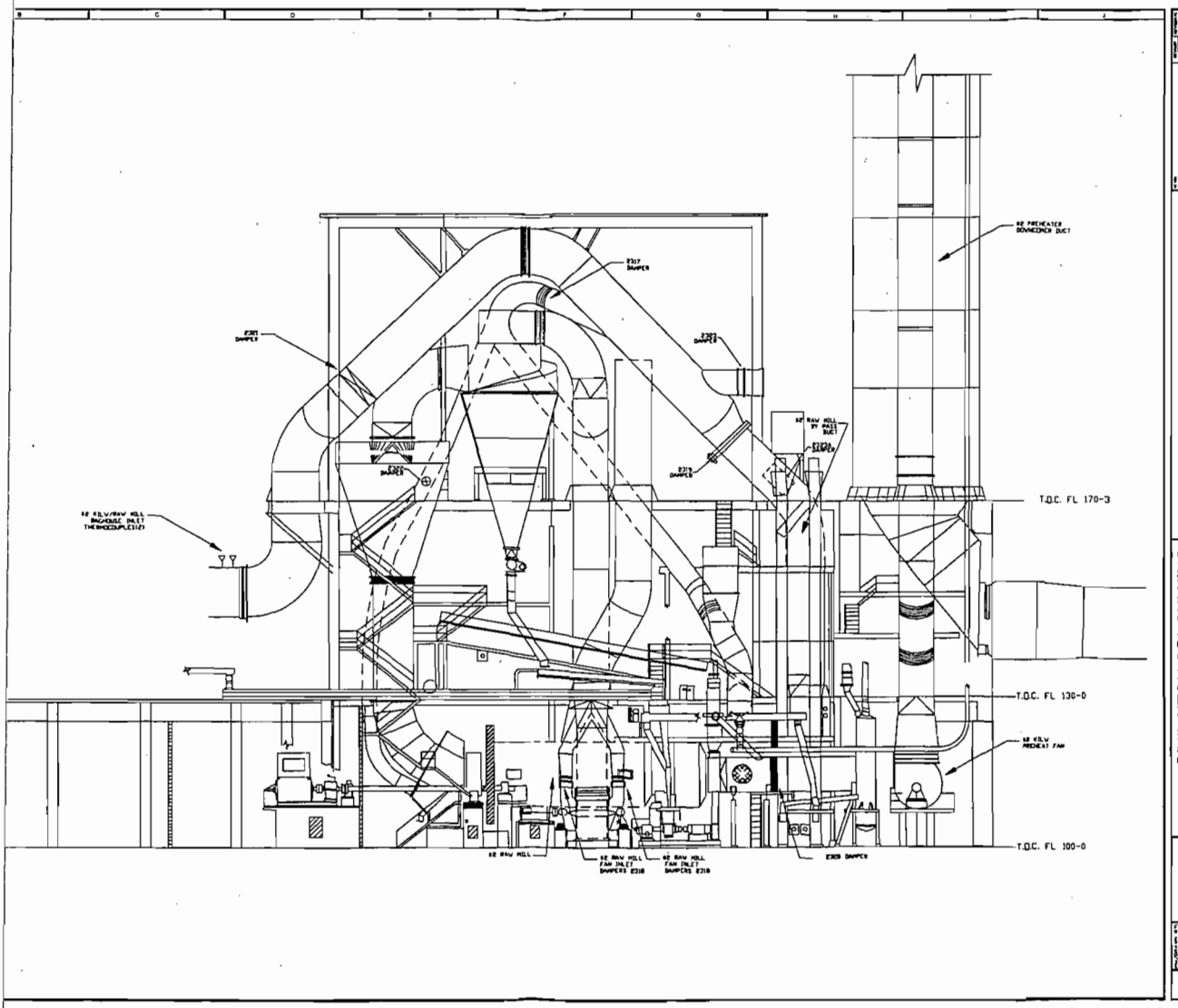
PROJECT
PROJECT

#1 RAW MILL BY PASS DUCTING

CIVIL-TECH CONSULTING ENGINEERS, INC.
CIVIL ENGINEERS & PLANNERS
12 Corporate Park Drive, Suite 101, Hebron, KY 41048
Phone (606) 586-4331 / Fax (606) 586-4303
Registration / EC-0001748

SHEET NO.
1 OF 2

Best Available Copy



CIVIL-TECH CONSULTING ENGINEERS, INC.
CIVIL ENGINEERS & PLANNERS
12 South Main Street, Rome, GA 30161
Phone - (332) 795-6319 / Fax - (332) 799-9283
www.Civil-Tech.com
Registration # PE-0007148

PROJECT
PROJECT

#2 RAW MILL BY PASS DUCTING

SHEET NO.
2 OF 2

This plan shall not be used as a Construction document, unless stamped "APPROVED FOR CONSTRUCTION".

Figure 1

DAMPER CONFIGURATION AT RAW MILL NO. 1 SHOWING
DAMPER SETTINGS FOR RAW MILL UP SCENARIO
AND DIRECTION OF AIR FLOWS

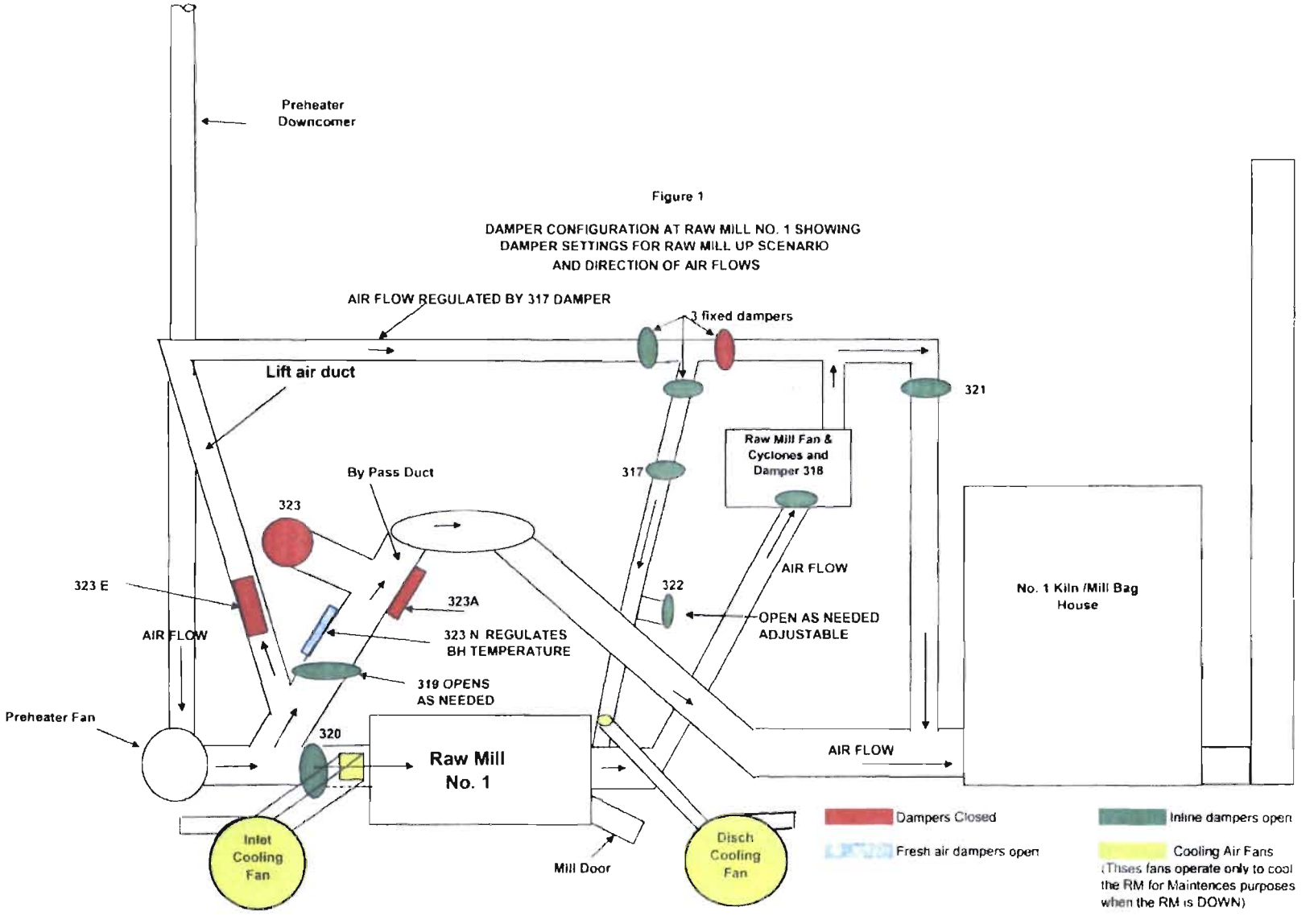


Figure 2

DAMPER CONFIGURATION AT RAW MILL NO. 1 SHOWING
DAMPER SETTINGS FOR RAW MILL DOWN SCENARIO
AND DIRECTION OF AIR FLOWS

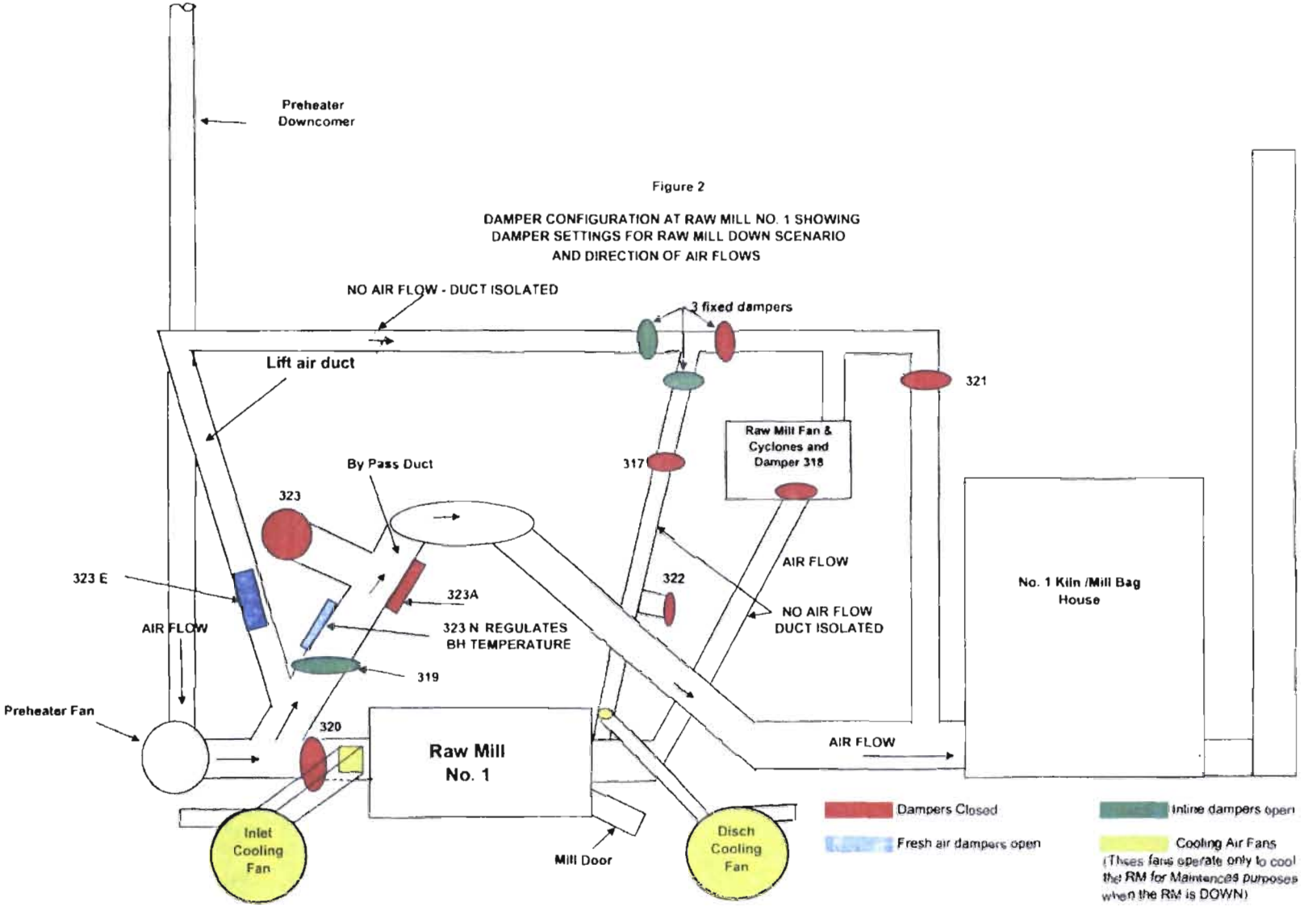


Figure 3

DAMPER CONFIGURATION AT RAW MILL NO. 2 SHOWING
DAMPER SETTINGS FOR RAW MILL UP SCENARIO
AND DIRECTION OF AIR FLOWS

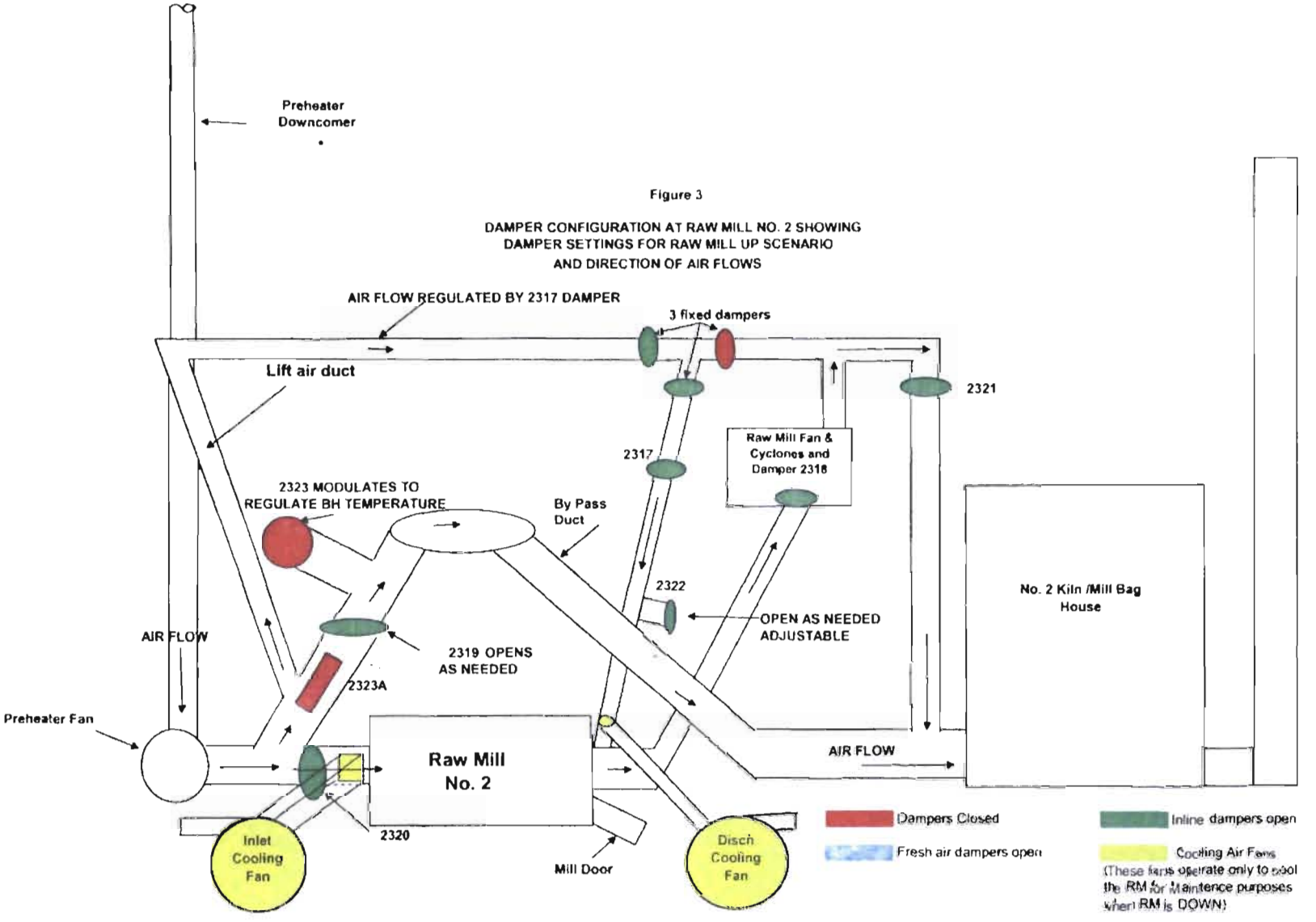


Figure 4

DAMPER CONFIGURATION AT RAW MILL NO. 2 SHOWING
DAMPER SETTINGS FOR RAW MILL DOWN SCENARIO
AND DIRECTION OF AIR FLOWS

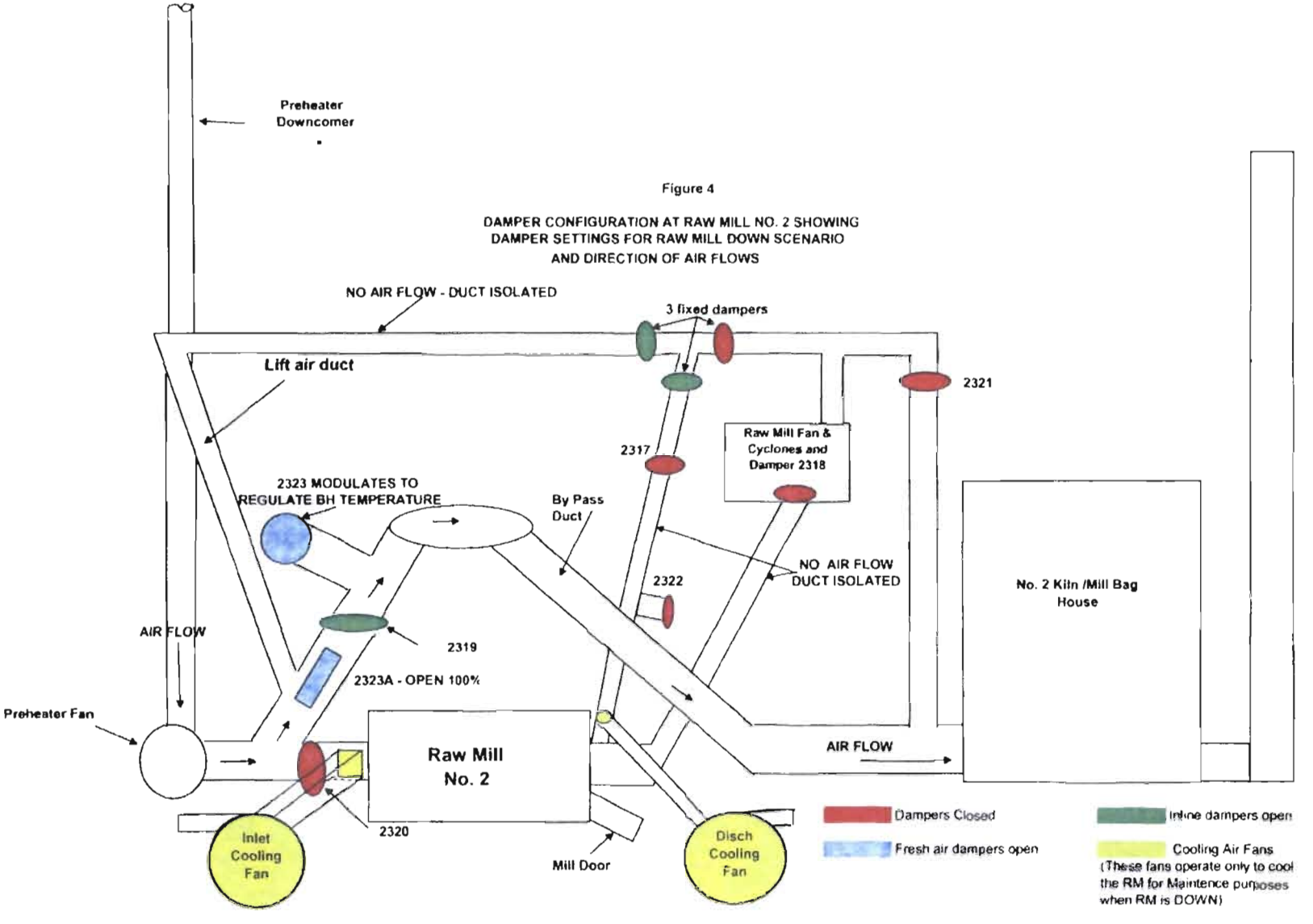


Figure 1: #1 Kiln—Raw Mill B H Inlet Thermocouples.

Figure 2: #1 Raw Mill by pass Ducting (1).

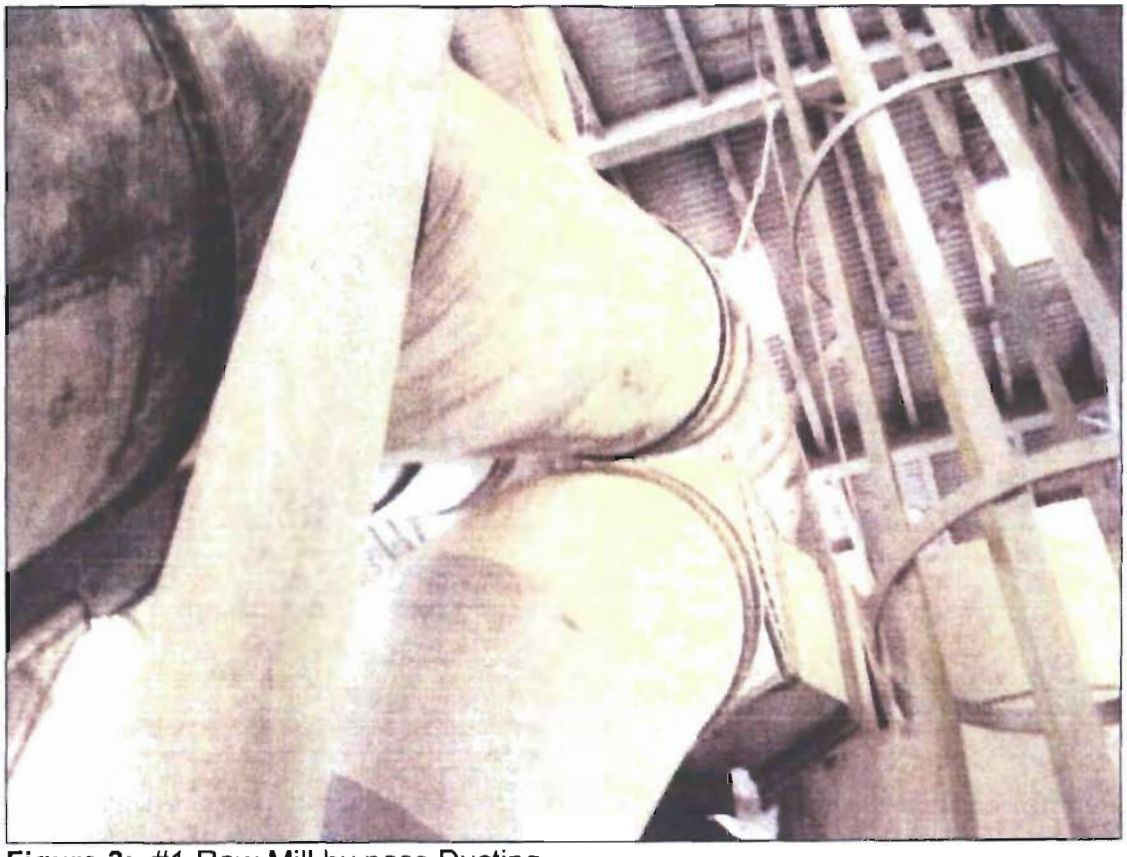


Figure 3: #1 Raw Mill by pass Ducting

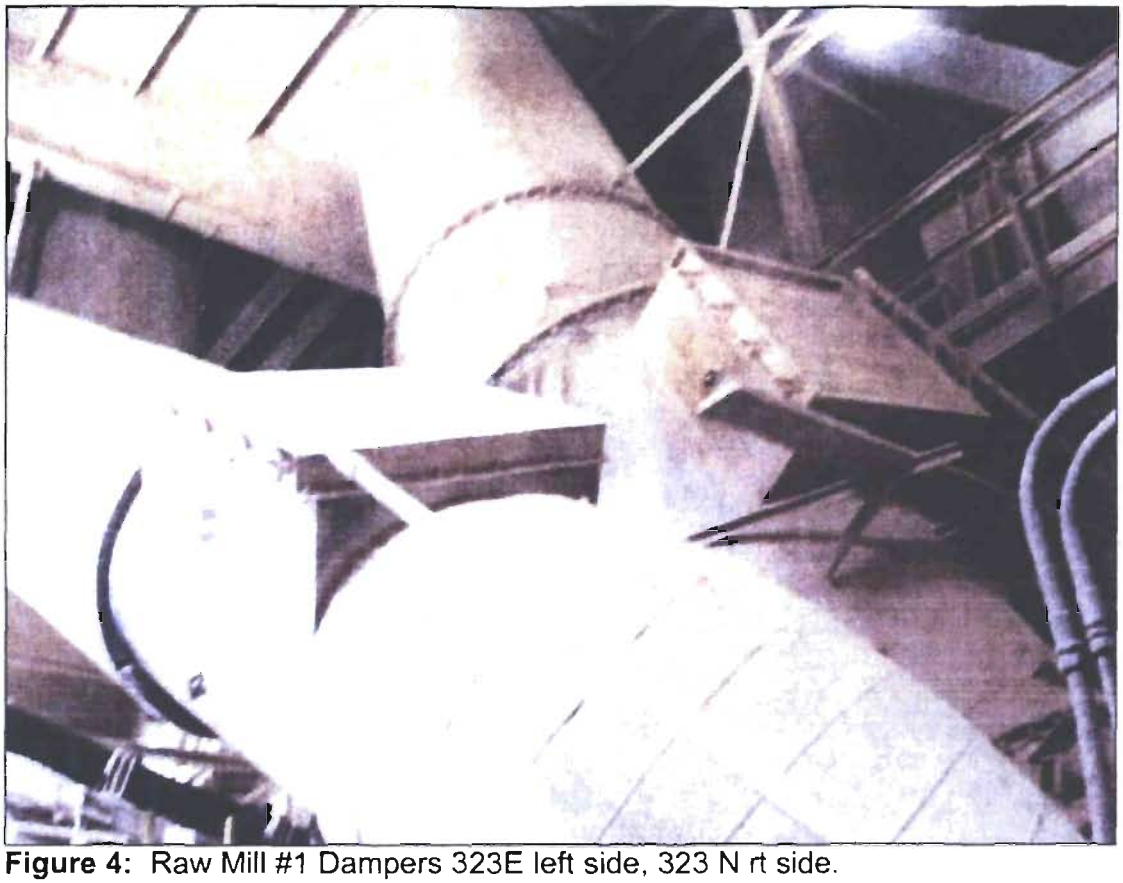


Figure 4: Raw Mill #1 Dampers 323E left side, 323 N rt side.

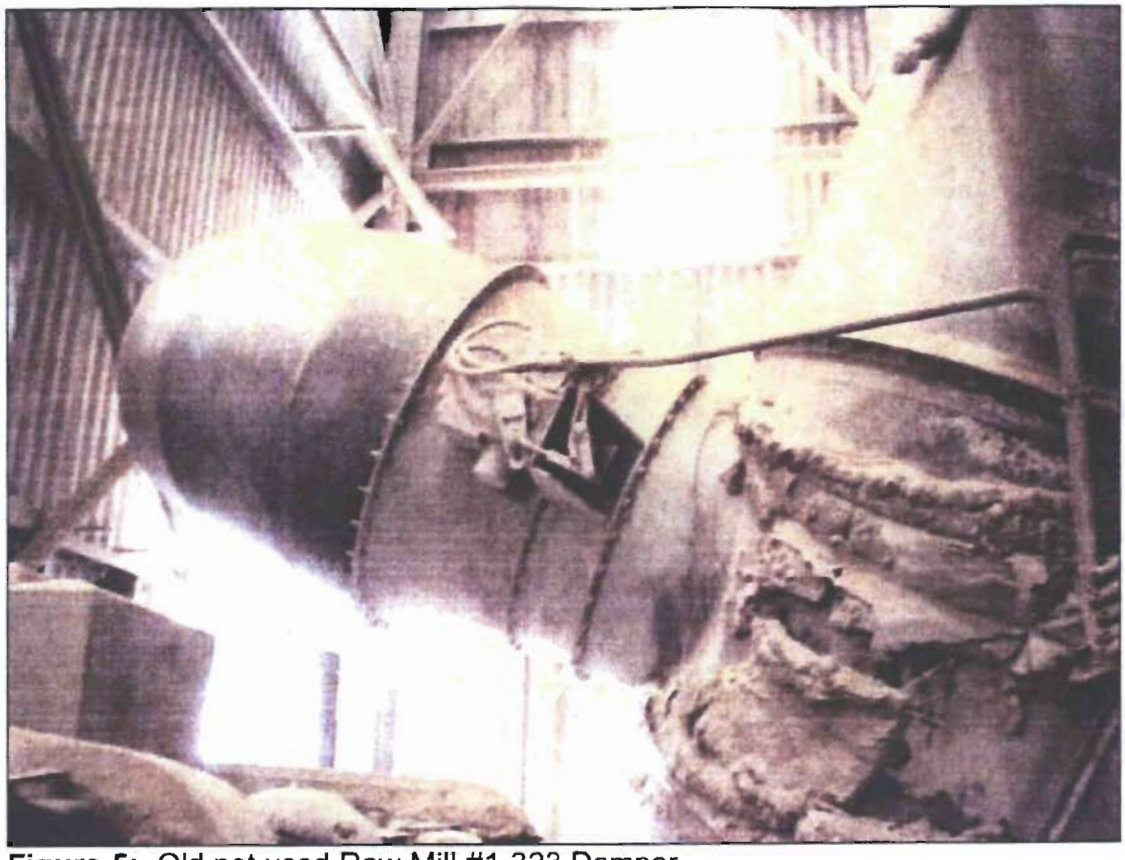


Figure 5: Old not used Raw Mill #1 323 Damper.

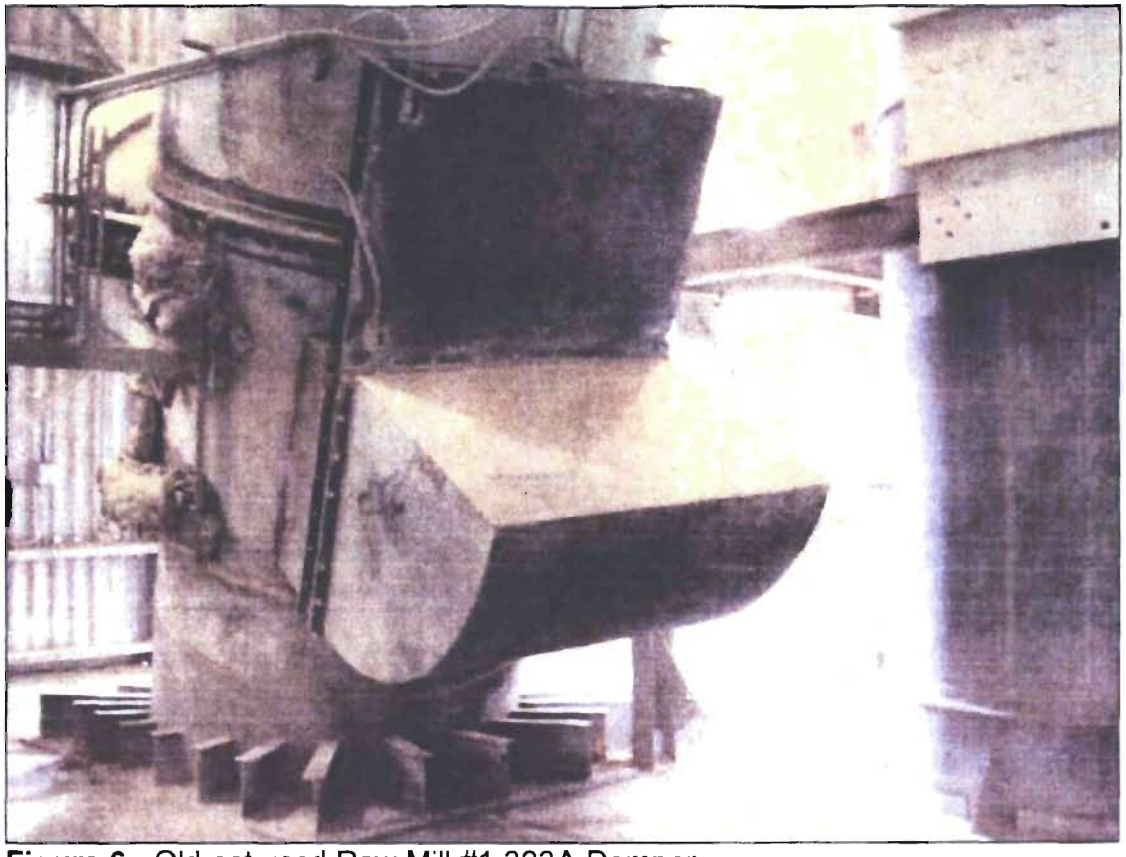


Figure 6: Old not used Raw Mill #1 323A Damper.

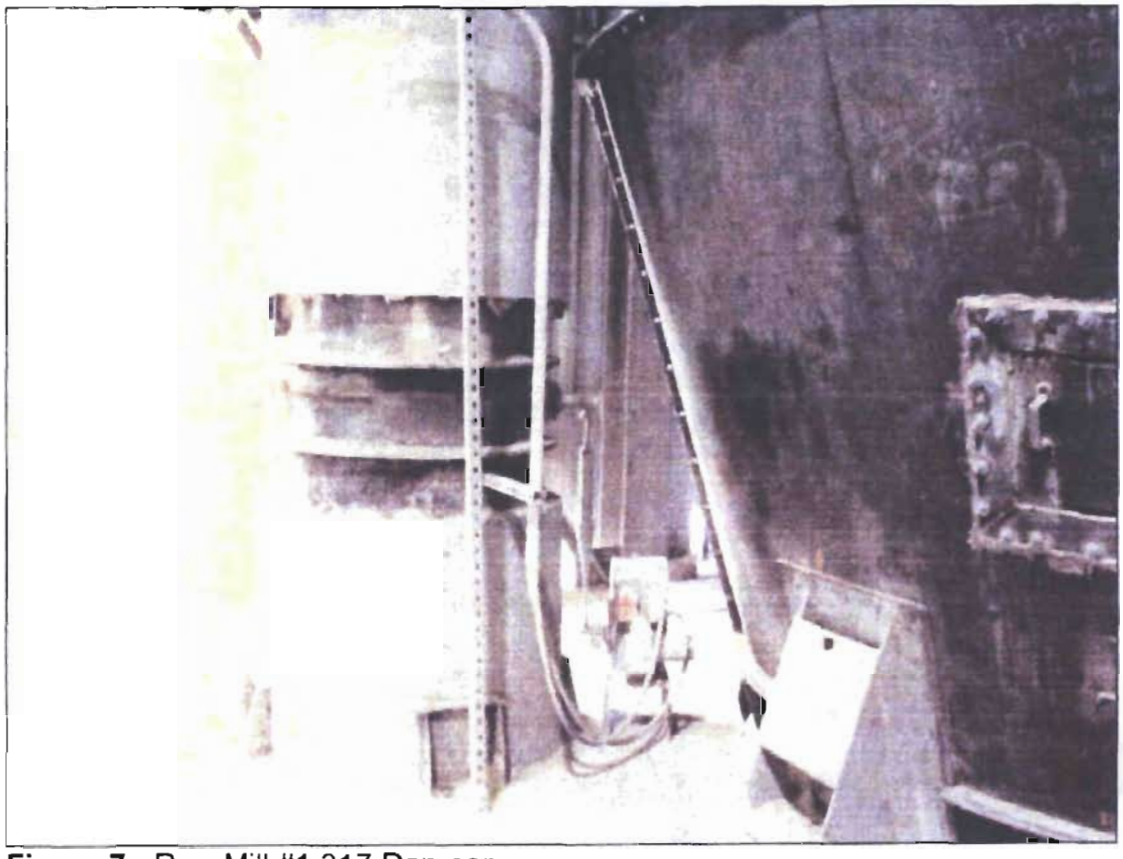


Figure 7: Raw Mill #1 317 Damper.

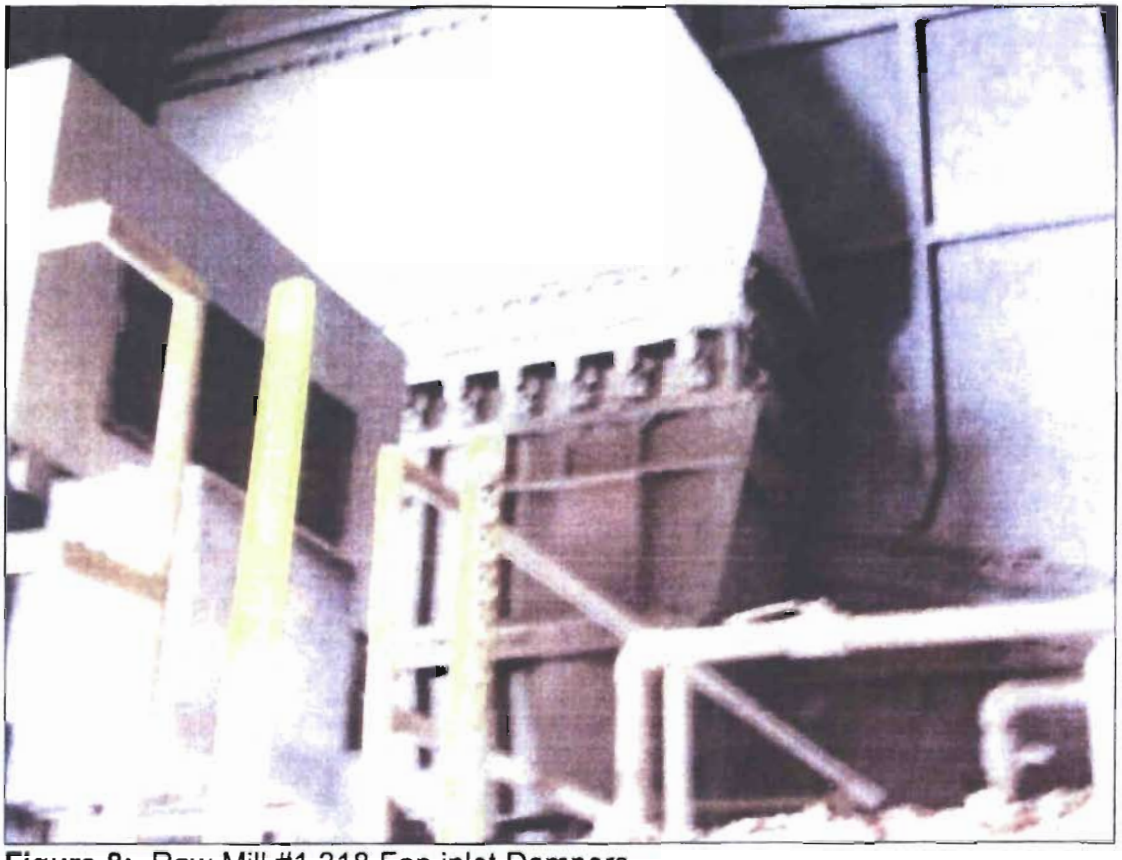


Figure 8: Raw Mill #1 318 Fan inlet Dampers.

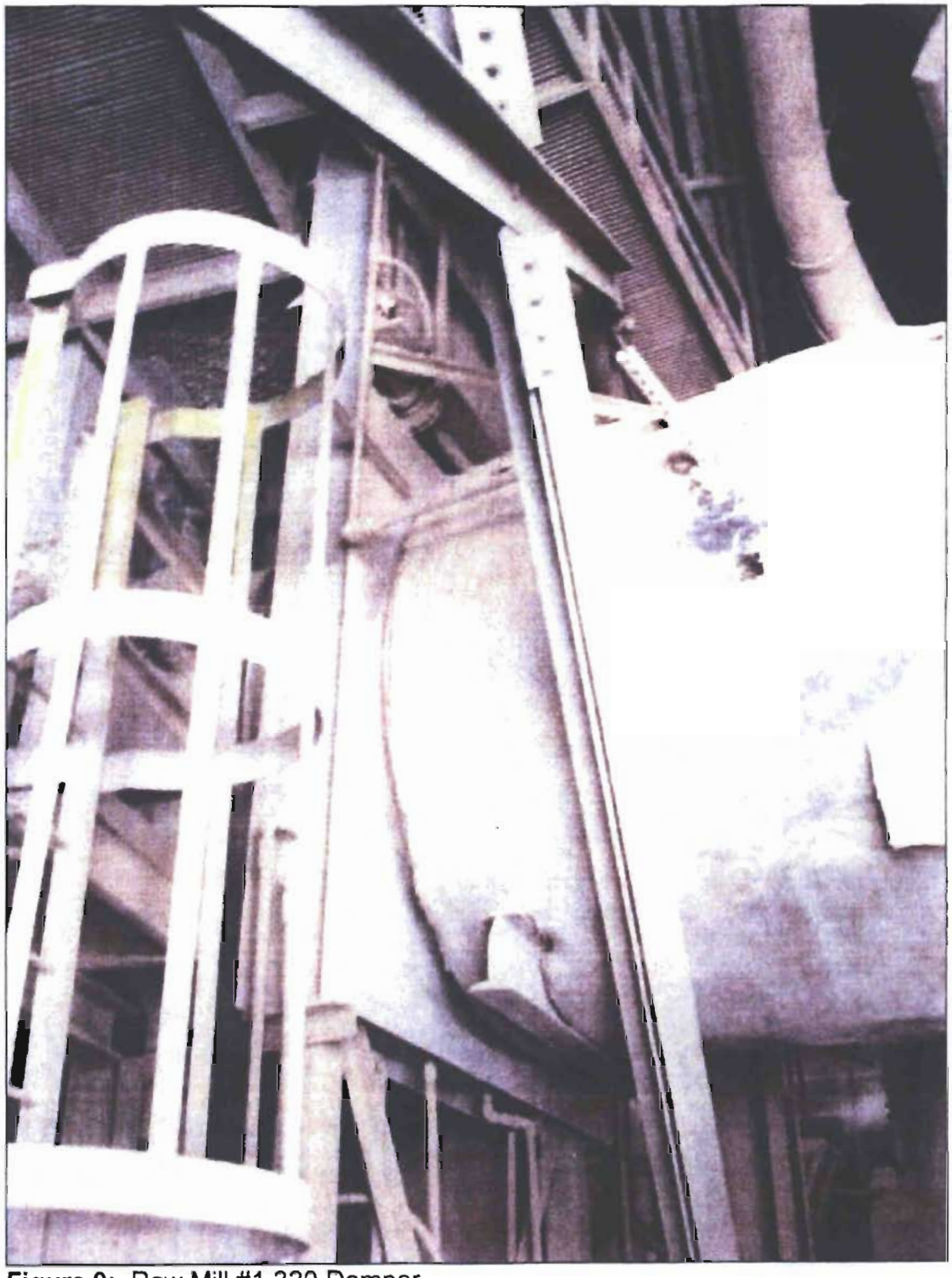


Figure 9: Raw Mill #1 320 Damper.

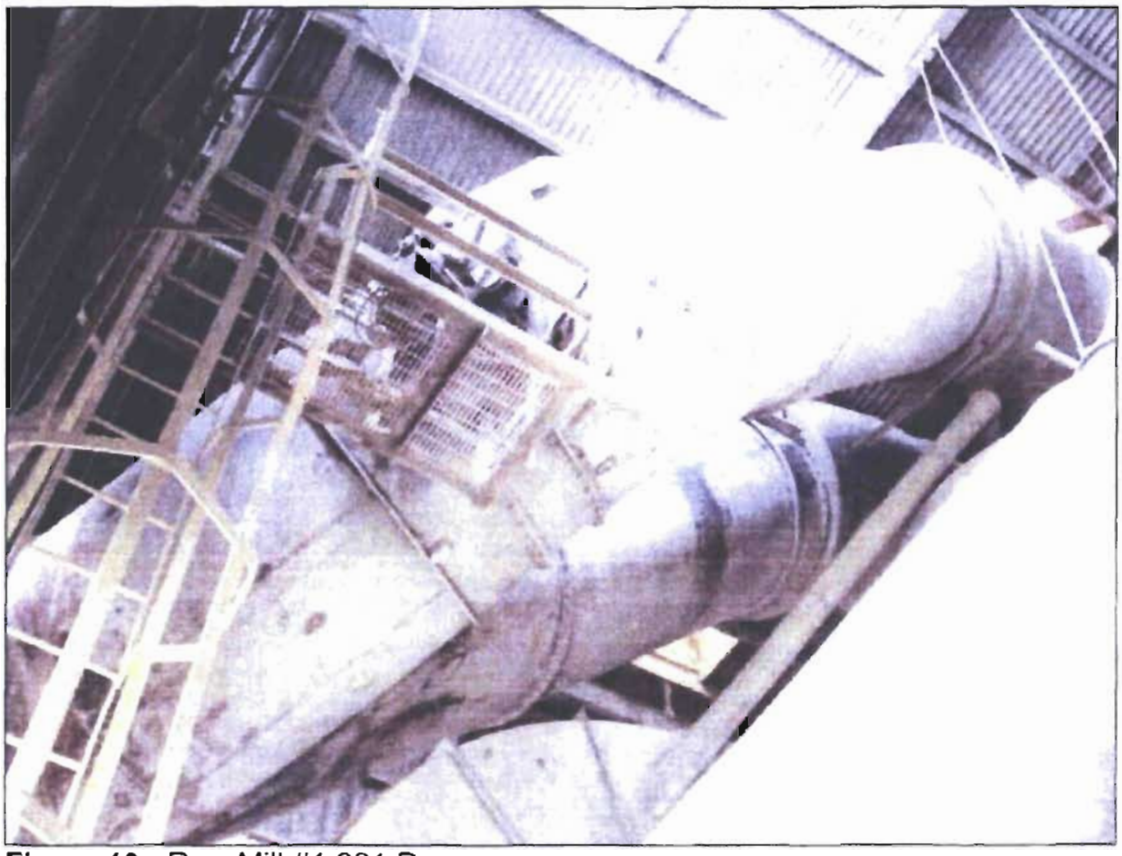


Figure 10: Raw Mill #1 321 Damper.

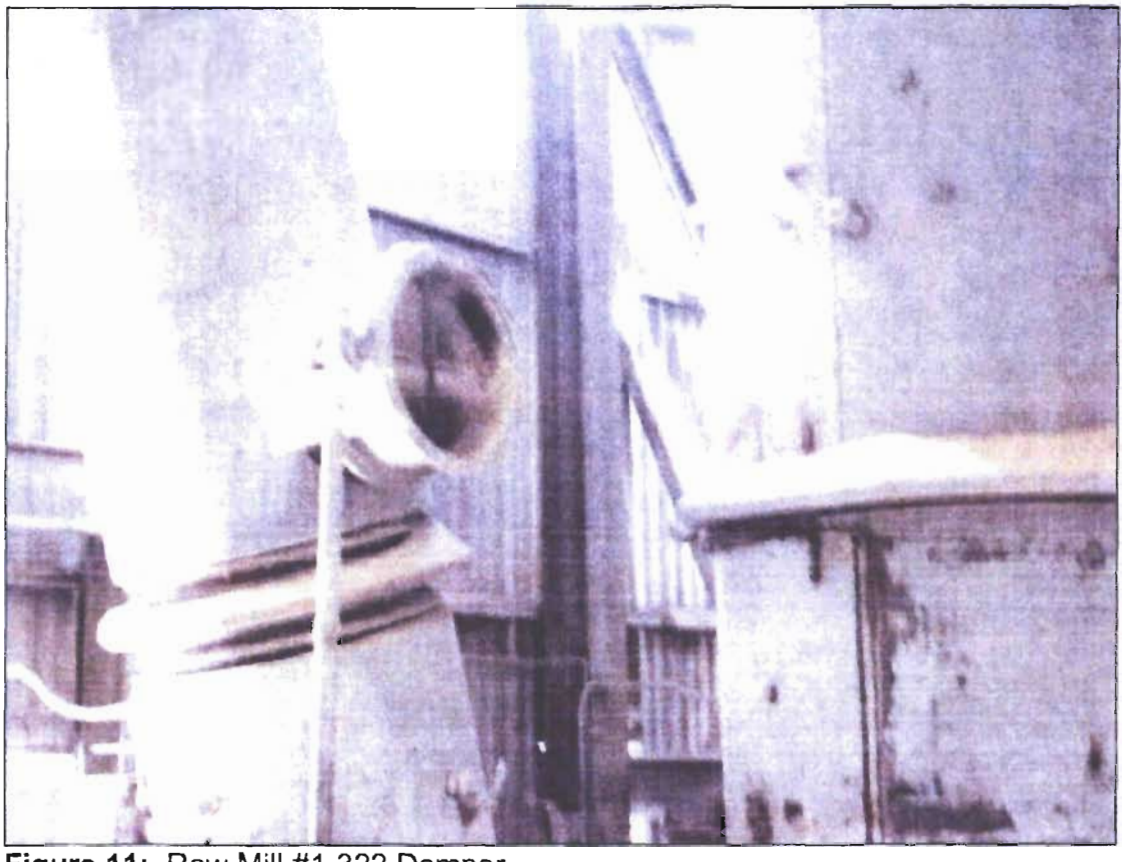


Figure 11: Raw Mill #1 322 Damper.

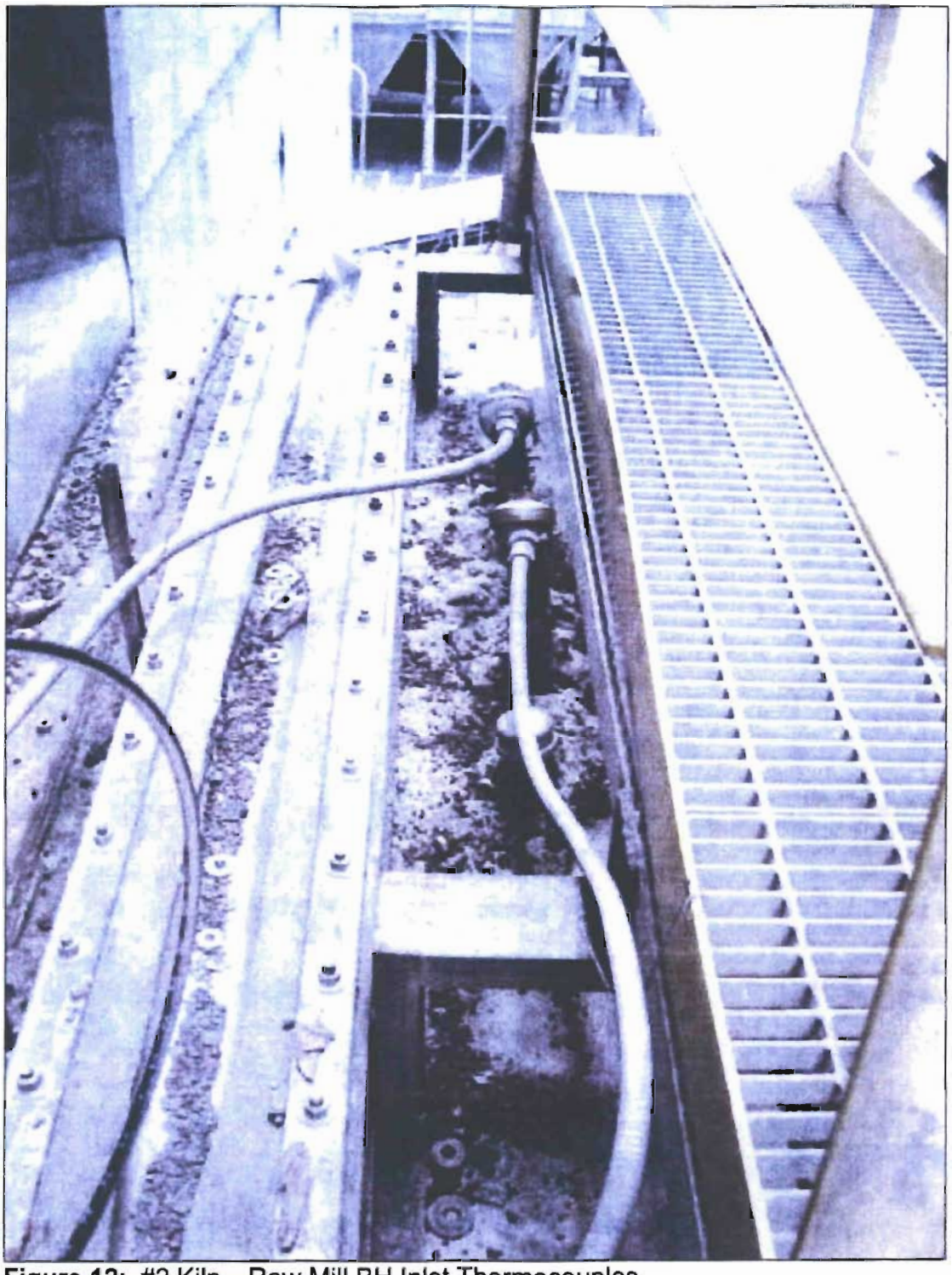


Figure 12: #2 Kiln—Raw Mill BH Inlet Thermocouples.

Figure 13: Raw Mill #2 2317 damper at platform.

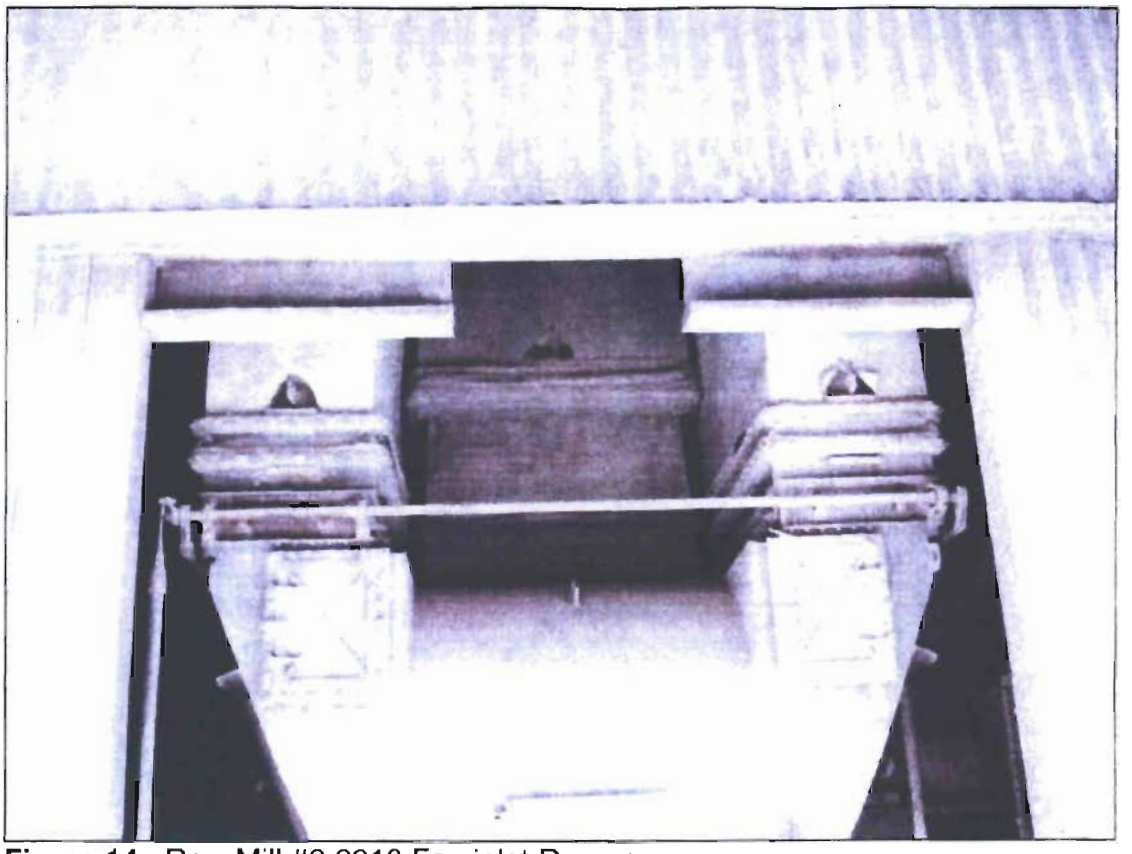


Figure 14: Raw Mill #2 2318 Fan inlet Dampers.

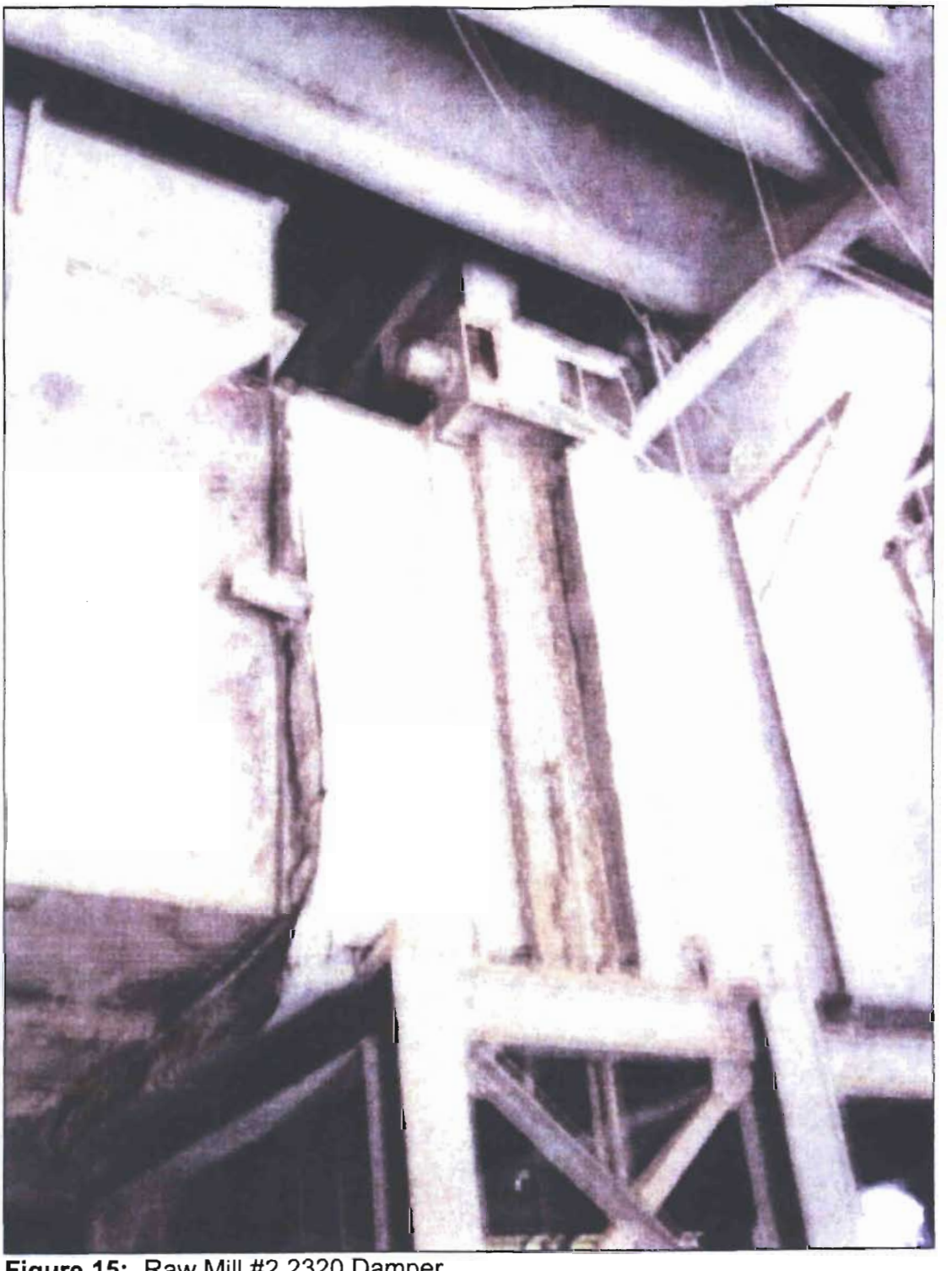


Figure 15: Raw Mill #2 2320 Damper.

Figure 16: Raw Mill #2 2321 Damper.

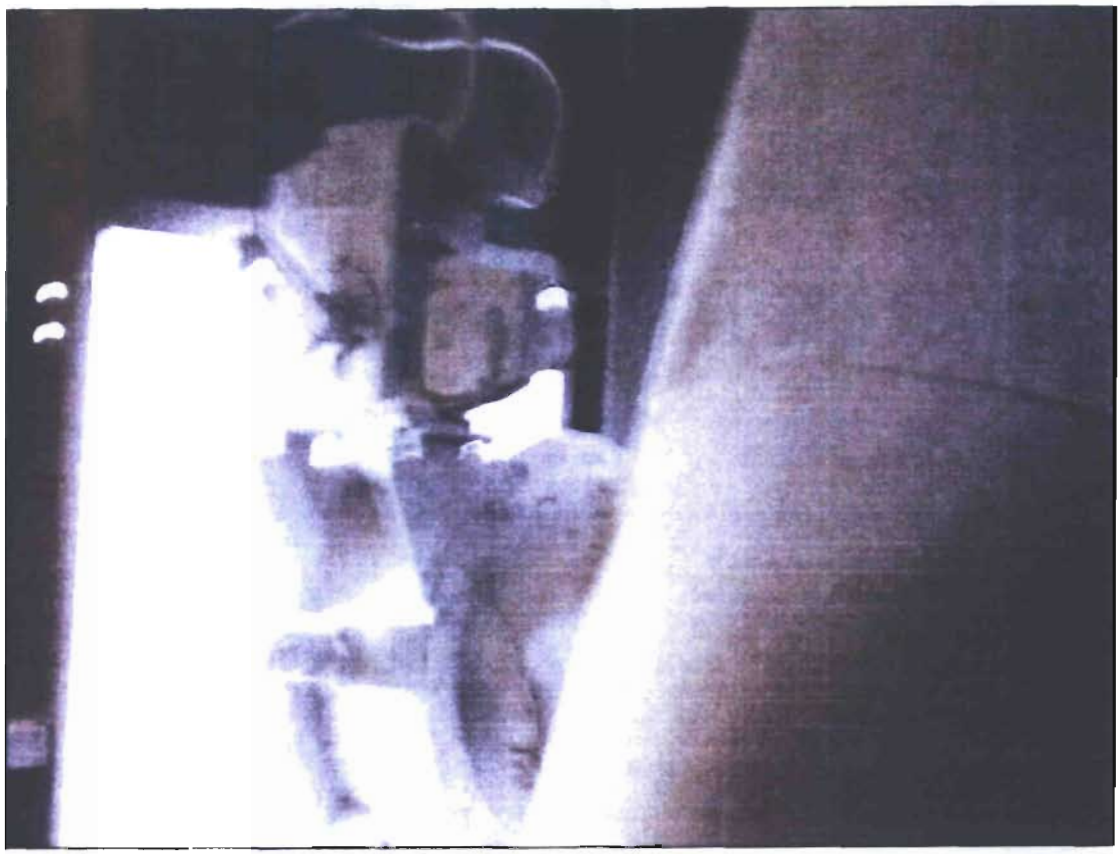


Figure 17: Raw Mill #2 2322 Damper.

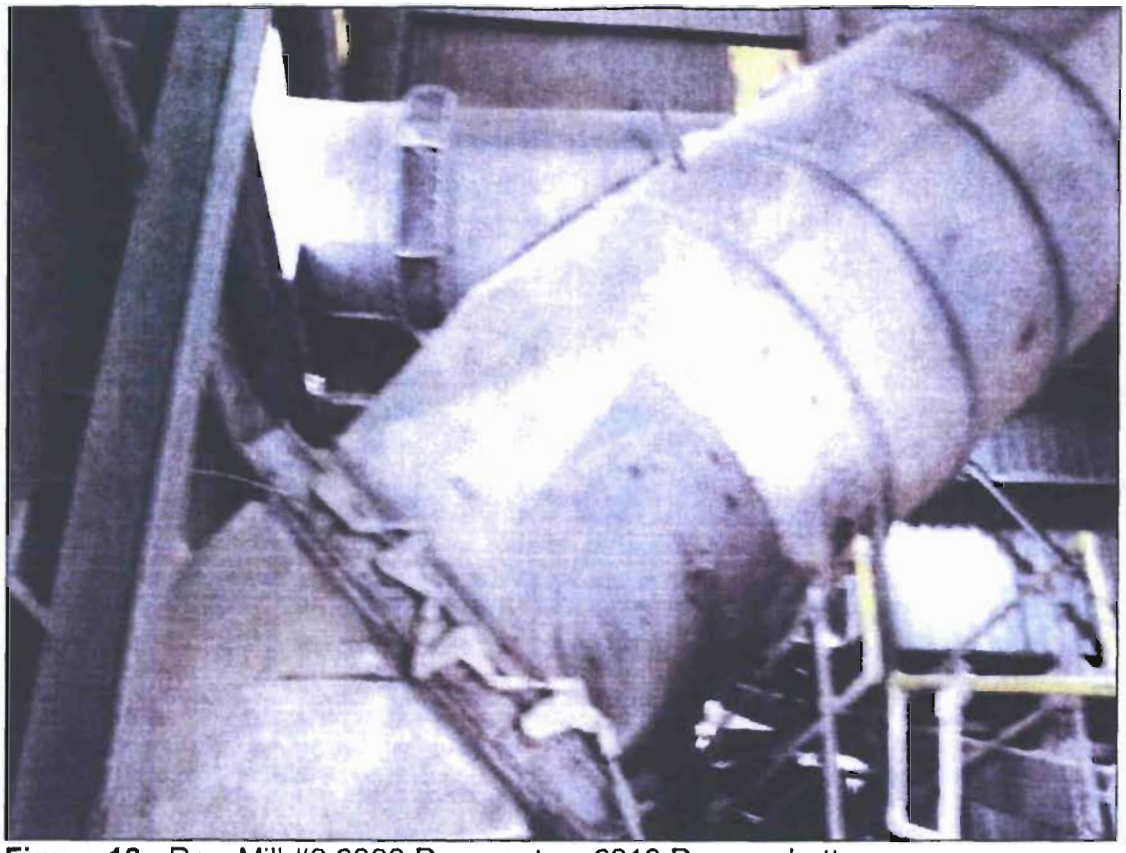


Figure 18: Raw Mill #2 2323 Damper top, 2319 Damper bottom.

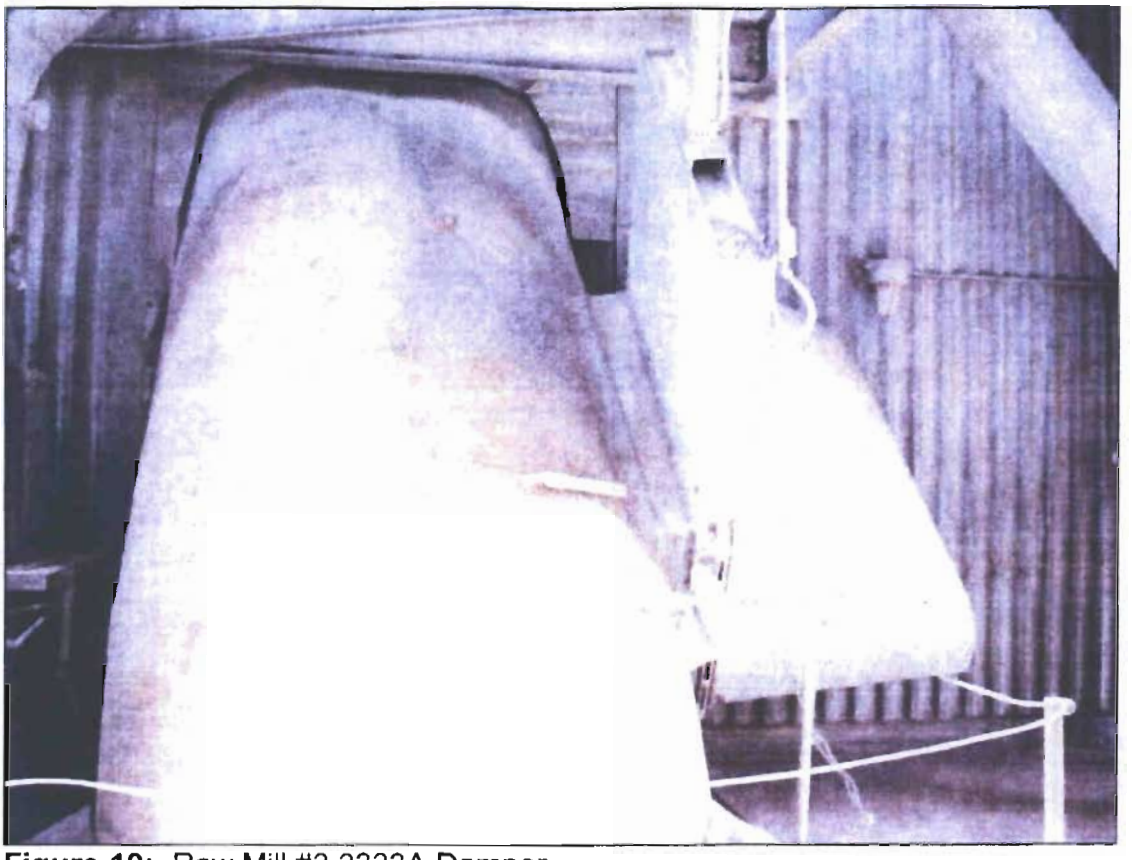


Figure 19: Raw Mill #2 2323A Damper.

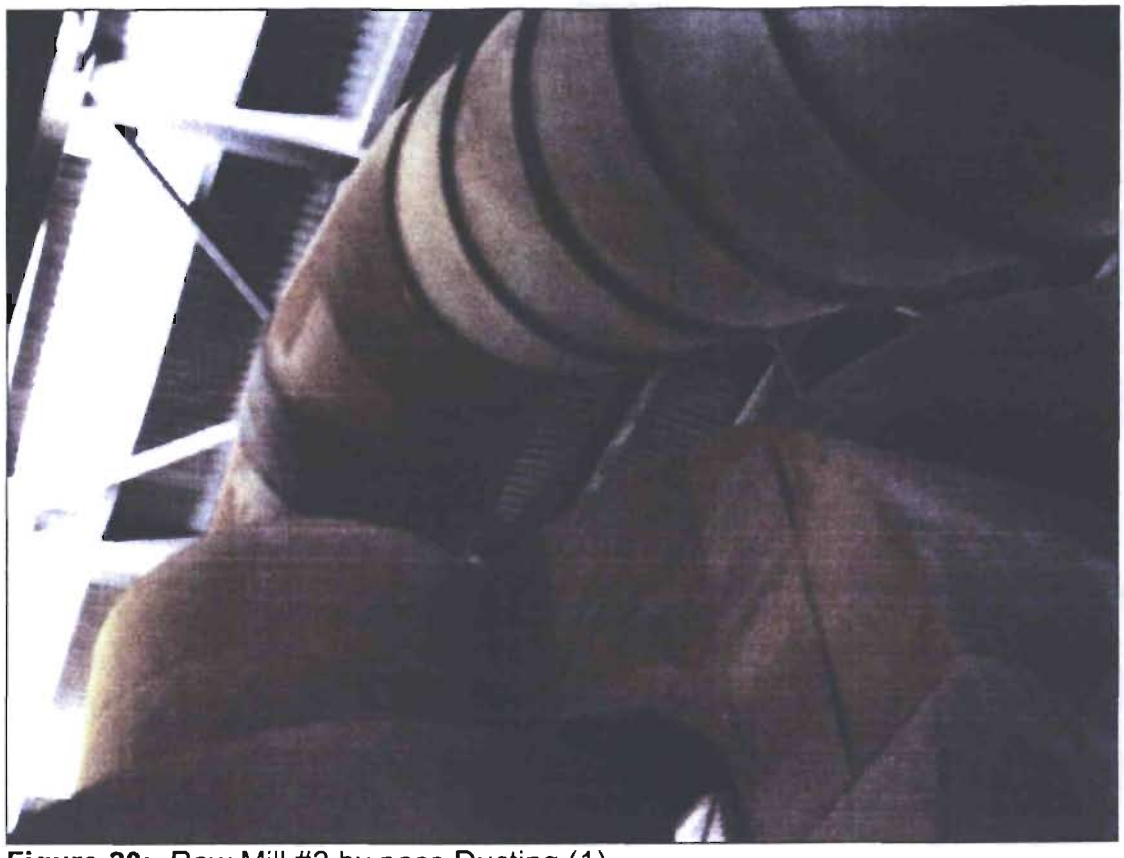


Figure 20: Raw Mill #2 by pass Ducting (1).

Figure 21: Raw Mill #2 by pass duct.

David Zell
FDEP SW District Office
13051 N. Telecom Pkwy
Temple Terrace, Fl 33637

5/25/06

Re: Cemex Brooksville Cement Plant
FDEP Project 1050010-019-AC
Cooling Air Dampers for Kiln No. 1
Response to Second RAI

Dear David,

Following is a response to your second RAI related to the above captioned project. The responses follow numeric designation used in your RAI.

1. Damper Operation – Position Indicators for Dampers 323N and 323E and Record Keeping.

The 323N Damper has a variable position readout and the output is recorded on the PLC in the Control Room.

The 323 E Damper also has Control Room position readout. As this damper is an open or closed damper, the damper positioner reads zero percent for the closed position, when the raw mill is operating and the positioner reads 100 percent for open position when the raw mill is down.

The data from both position indicators are recorded on the PLC and archived.

2. Use of Other Dampers in the Kiln No. 1 System

Explain the function and use of the other dampers shown on the No. 1 Kiln Preheater Flow Chart (ID Nos. 317, 317a, 318, 319, 320, 321, 322, 323, 323a) and whether the position of any of these dampers would be changed during raw mill down operation.

317 This damper regulates the quantity of lift air required by the mill during operation. The damper position is variable during mill on conditions. This damper is closed when the mill is down

317A This is a manual damper and it's position is never changed.

318 This is the raw mill fan inlet damper. It is open during mill operation and closed shortly after the raw mill is shut down and the main mill fan has cooled down enough to shut down without suffering thermal heat damage.

319 This damper regulates the quantity of hot gases that are required to dry the material in the mill. This damper is slightly open during mill operating conditions. This damper is open when the raw mill is down

320 This damper is fully open when the raw mill is operating. It is fully closed when the mill is down. The damper isolates hot gases from entering the mill.

321 Open when the mill is operating and closed when the mill is down. The damper controls airflow from the raw mill fan discharge.

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322 Regulates raw mill fan temperature and protects the fan from thermal damage. Opens whenever fan temp reaches 250 deg F. Its position in mill down conditions does not matter because other dampers isolate the system. (321 and 317)

323 Closed not used, disabled

323A Closed not used, disabled

As Cemex consider the operation of the 323 E and 323 N dampers as the temperature control dampers for D/F, these are the only dampers with recording positioners.

What was the position of these dampers during the June 16, 2005 D/F compliance test?

Dampers 317, 318, 320, 321, 323, 323A were all closed during the June 16, 2005 compliance test.

Damper 319 was open during the test.

Dampers 317A no change.

Damper 322 - its position in mill down conditions does not matter because other dampers isolate it from the raw mill bypass duct.

3. Particulate Matter Emissions

The use of Dampers 323N and 323E to control the temperature of kiln gases bypassing the raw mill in the Kiln No.1 system is not expected to measurably change the raw mill down gas flow rate as measured in the kiln stack. The purpose of these dampers is not to add additional cooling air to the system, the purpose is to add cooling air in a manner that will cool the bypassed gases quickly and uniformly. The placement of the dampers was based on Computational Fluid Dynamic (CFD) modeling and the effectiveness of the dampers has been demonstrated by subsequent D/F performance testing.

I trust this will satisfactorily respond to your RAI. If there are further questions or if clarification is required on any of the information provided herein, please contact me at 352-377-5822 or at jkoogler@kooglerassociates.com . A signed and sealed hard copy of this correspondence will follow.

Very truly yours

John Koogler, Ph.D., P.E.

Department of Environmental Protection

Jeb Bush
Governor

Southwest District
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926
Telephone: 813-632-7600

Colleen M. Castille
Secretary

February 9, 2006

RECEIVED
FEB 13 2006
BUREAU OF AIR REGULATION

Mr. Michael Gonzales
CEMEX Cement, Inc.
P.O. Box 6
Brooksville, Florida 34605

Dear Mr. Gonzales:

Re: 2nd Request for Additional Information (RAI)
Air Construction Permit Application for Kiln No. 1 Cooling Dampers
(DEP Project No.: 1050010-019-AC)

The Department received the January 12, 2006 response from your consultant, Koogler & Associates, to the Department's request for additional information (RAI) on the construction permit application for the cooling dampers on Kiln No. 1 at the CEMEX Brooksville Cement Manufacturing Plant. Based on our review of this response letter we have determined that the application is incomplete. Therefore, the following information is needed in order to continue processing this application pursuant to Rules 62-213.420(1)(b) and 62-4.070(1), F.A.C. The item numbers correspond to those used in the original Department RAI and your response letter.

1. Damper Operation
It is not clear from the response whether the control room damper position percentage readout exists for both dampers or only for variable position Damper 323 N, which is controlled by an automatic damper positioner based on the bag house inlet temperature. Is there also a control room percentage readout for Damper 323 E to show its position? The response also did not respond to the question of what operation records are kept to document the position of each damper during each period of operation with the raw mill off?

2. Questions on No. 1 Kiln Preheater Flow Chart (fold out chart attached to application showing flow from kiln exit to kiln/mill baghouse)
Since D/F formation is based not only on gas temperature at the baghouse inlet, but also temperatures upstream of that in the bypass duct and on where the temperature reduction occurs (i.e., the temperature profile in the bypass duct), the Department needs to understand the use and operation of any dampers that can affect the bypass duct temperature profile to insure that normal raw mill down

operating conditions are as close as possible to those that existed during the successful compliance test. Please explain the function and use of the other dampers shown on this chart (ID Nos. 317, 317a, 318, 319, 320, 321, 322, 323, 323a) and whether the position of any of these dampers would be changed during raw mill down operation. What was the position of these dampers during the July 16, 2005 D/F compliance test?

3. Particulate Matter (PM) Emissions
   Since there is an increase in the dscfm airflow rate when the dampers are used, please explain why there would not be an associated increase in actual PM emissions from the Kiln No. 1 bag house exhaust. If, as has been the standard assumption in other applications submitted for this facility, the baghouse outlet grains/dscfm concentration is assumed to be at a consistent level (and not directly proportional to changes in inlet loading), for example an outlet concentration of 0.02 gr/dscfm, then an increase in air flow through the baghouse should result in an increase in lbs/hour emissions (outlet concentration x airflow = emissions, and if outlet concentration is constant and airflow increases then emissions increase.) Please submit calculations of potential PM emissions (lbs/hour) with the dampers in use, and not in use (i.e. at the two different baghouse air flow rates associated with raw mill in and raw mill down operating conditions) to demonstrate whether there will be an increase in potential PM emissions. If there is an increase in potential lbs/hour emission rate, please include an analysis of the potential tons/year increase based on worst case (highest hours) of operation with the raw mill off.

Rule 62-4.050 F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. As a result, your response to the above requests should be certified by a professional engineer just as the original applications were.

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"Notice: Pursuant to the provisions of Section 120.600, F.S. and Subsection 62-12.070(5), F.A.C., if the Department does not receive a response to this request for information within 90 days of the date of this letter, the Department will issue a final order denying your application. You need to respond within 30 days after you receive this letter, responding to as many of the information requests as possible and indicating when a response to any unanswered questions will be submitted. If the response will require longer than 90 days to develop, an application for new construction should be withdrawn and resubmitted when completed information is available. "

If you have any questions, please call David Zell of my staff at (813) 744-6100 extension 118 or via email at david.zell@dep.state.fl.us.

Sincerely,

Jason Waters, P.E.
Air Permitting Supervisor
Southwest District Office

DRZ/

copies to:
- William A. Proses, P.E., Koogler & Associates
- Al Linero, FDEP, DARM, Bureau of Air Regulation

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 ▪ FAX/377-7158

KA521-05-07
January 12, 2006

D.E.P
SOUTHWEST DISTRICT
JAN 13 2006
9m
TAMPA

Mr. Davis Zell
Florida Department of
Environmental Protection Southwest District
3804 Coconut Palm Drive
Tampa, FL 33619-8318

Subject: ***Request for Additional Information***
Air Construction Permit Application for Cooling Dampers
(DEP Project 0530010-019-AC)
CEMEX Brooksville Cement Manufacturing Plant

Dear Mr. Zell:

We remain concerned that this applied for change does not require a construction permit. None of the requirements of Rule 62-210.300(1)(b), FAC are triggered.

1.a. Any change that would constitute an administrative correction may be made pursuant to Rule 62-210.360, F.A.C.

No administrative correction is required.

1.b. Any change that would constitute a modification, as defined at Rule 62-210.200, FAC., shall be accomplished only through the issuance of an air construction permit; and

(169) "Modification" - Any physical change in change in method of operation of, or addition to a facility which would result in an increase in the actual emissions of any air pollutant subject to regulation under the Act, including any not previously emitted, from any unit or facility.

This installation does not constitute a modification as defined at Rule 62-210.200, FAC. There is no increase in any actual emission; in fact there is a reduction in dioxin/furan formation.

1.c. Any change in a permit limitation or requirement that originates from a permit issued pursuant to 40 C.F.R. 52.21, sub paragraph 62-204.800(10)(d)2., F.A.C., Rule 62-212.400, F.A.C., Rule 62-212.500, F.A.C., or any former codification of Rule 62-212.400, or Rule 62-212.500, F.A.C., shall be accomplished only through the issuance of a new or revised air construction permit under subparagraph 62-204.800(10)(b), F.A.C., Rule 62-212.400, or 62-212.500, F.A.C., as appropriate.

No changes in permit limitations or requirements are requested.

In response to your letter dated December 14, 2005 and received December 16, 2005 the attached responses are provided:

1. Damper Operation

Damper 323 E will be in the open position when the No.1 Raw Mill is down and in the closed position when the No.1 Raw Mill is in operation. There are no variable positions for Damper 323 E; it is either in the open or closed position.

Damper 323 N is controlled by an automatic damper positioner based on the bag house inlet temperature.

The bag house inlet temperature set point is based on the limitation established during the last compliance test and does not vary. 40 CFR 63.1344(b)

Damper operation/position is indicated to the control room operator by a percentage readout on the control monitor.

There is redundancy in the baghouse inlet temperature thermocouples. Two thermocouples exist for monitoring the bag house inlet temperature.

If the signal from the thermal couple is lost or otherwise determined to be in error the control room operator will refer to the secondary thermocouple reading.

2. Questions on No. 1 Kiln Preheater Flow Chart (fold out chart attached to application showing flow from kiln exit to kiln/mill baghouse)

Following the March/April 2005 compliance testing, CEMEX conducted an engineering study and model of temperatures profile across the raw mill bypass cooling system. Temporary temperature monitoring locations were identified to facilitate discussion between the CEMEX technical team regarding where physical temperatures were being manually collected. The data from these points were used to develop the computer model.

After completion of the computer model manual temperature readings were no longer required

Based upon 60 diagnostic stack tests and over 10 compliance tests, the cooling technique needed to control D/F emissions consists of the following

use of raw mill bypass cooling technique during mill-off conditions
operation of the 323E in the open position during mill-off conditions
modulation of the 323N damper to control the established baghouse inlet temperatures
Maintaining the baghouse inlet temperatures as established during the D/F compliance tests.

The other dampers are not used for the control DF emissions and were included on the drawing only to facilitate the identification and location of the 323 dampers.

3. Particulate Matter Emissions

There is an increase of acfm and/or dscfm) associated with the use of the dampers. The actual increase in air flow varies due to ambient air temperatures. There should not be a change in the projected actual emissions from the #1 kiln/mill bag house.

The increase in acfm falls within the design parameters for the baghouse to achieve its design PM control efficiency,

There has not been a PM compliance test done with the No. 1 Raw Mill down and dampers 323 E and 323 N in use as they were during the July 16, 2005 D/F compliance test.

Enclosure 1 is a new R.O. certification statement page from the DEP Form 62-210.900(1).

Enclosure 2 is a new P.E. certification statement page from the DEP Form 62-210.900(1).

Very truly yours,

William A. Proses

William A. Proses PE

KOOGLER & ASSOCIATES, Inc.

WAP/wp

cc: Michael Gonzales, CEMEX
Charles Walz, CEMEX

Enclosure 1

Owner/Authorized Representative Statement

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

1. Owner/Authorized Representative Name : **Michael A. Gonzales**

2. Owner/Authorized Representative Mailing Address...
   Organization/Firm: **CEMEX Cement, Inc.**
   Street Address: **Post Office Box 6**
   City: **Brooksville** State: **Florida** Zip Code: **34605**

3. Owner/Authorized Representative Telephone Numbers...
   Telephone: **(352) 799 - 2057** ext. Fax: **(352) 754 - 9836**

4. Owner/Authorized Representative Email Address: **mike.gonzales@cemexusa.com**

5. Owner/Authorized Representative Statement:

   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.

   Signature

   1/13/2006
   Date

Enclosure 2

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: **William A. Proses**
   Registration Number: **52080**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Koogler & Associates, Inc.**
   Street Address: **4014 NW 13th Street**
   City: **Gainesville** State: **Florida** Zip Code: **32609**
3. Professional Engineer Telephone Numbers...
   Telephone: **(352) 317 - 1030** ext. Fax: **(813) 920 - 9539**
4. Professional Engineer Email Address: **wproses@kooglerassociates.com**
5. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(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

(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.

(3) If the purpose of this application is to obtain a Title V air operation permit (check here ☐, 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.

(4) If the purpose of this application is to obtain an air construction permit (check here ☒, 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 , 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.

(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 ☐, 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.

William A. Proses — Signature

1/13/06 — Date

(seal)

* Attach any exception to certification statement.