



# Department of Environmental Protection

D.E.P. SOUTHWEST DISTRICT  
NOV 14 2005

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Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

TAMPA

## 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: <b>CEMEX Cement, Inc.</b>	
2. Site Name: <b>Brooksville Plant</b>	
3. Facility Identification Number: <b>0530010</b>	
4. Facility Location... Street Address or Other Locator: <b>16301 Ponce De Leon Blvd.</b> City: <b>Brooksville</b> County: <b>Hernando</b> Zip Code: <b>34605</b>	
5. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Title V Permitted Facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

### Application Contact

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

### 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):	
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## APPLICATION INFORMATION

### Purpose of Application

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

#### **Air Construction Permit**

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**

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

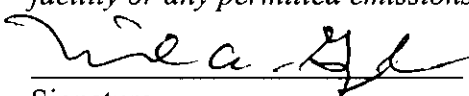
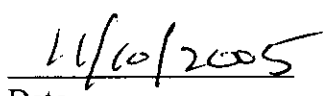
**Application Processing Fee**

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

**APPLICATION INFORMATION**

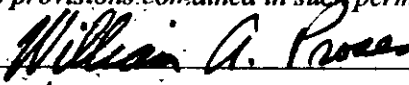
**Application Responsible Official Certification**

**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: <b>Michael A. Gonzales</b>
2. Application Responsible Official Qualification (Check one or more of the following options, as applicable): <input checked="" type="checkbox"/> 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. <input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively. <input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official. <input type="checkbox"/> The designated representative at an Acid Rain source.
3. Application Responsible Official Mailing Address... Organization/Firm: <b>CEMEX</b> Street Address: <b>City: Post Office Box 6 State: Florida Zip Code: 34605</b>
4. Application Responsible Official Telephone Numbers... Telephone: <b>(352) 799 - 2057</b> ext. Fax: <b>(352) 754 - 9836</b>
5. Application Responsible Official Email Address: <b>mike.gonzales@cemexusa.com</b>
6. Application Responsible Official Certification: <i>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.</i>  _____ Signature  _____ Date

# APPLICATION INFORMATION

## Professional Engineer Certification

1. Professional Engineer Name: <b>William A. Proses</b> Registration Number: <b>52080</b>
2. Professional Engineer Mailing Address... Organization/Firm: <b>Koogler &amp; Associates, Inc.</b> Street Address: <b>4014 NW 13<sup>th</sup> Street</b> City: <b>Gainesville</b> State: <b>Florida</b> Zip Code: <b>32609</b>
3. Professional Engineer Telephone Numbers... Telephone: <b>(352) 317 - 1030</b> ext. Fax: <b>(813) 920 - 9539</b>
4. Professional Engineer Email Address: <b>wproses@kooglerassociates.com</b>
5. Professional Engineer Statement: <i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i> <i>(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and</i> <i>(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.</i> <i>(3) If the purpose of this application is to obtain a Title V air operation permit (check here <input type="checkbox"/> , if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.</i> <i>(4) If the purpose of this application is to obtain an air construction permit (check here <input checked="" type="checkbox"/> , if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here <input type="checkbox"/> , if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.</i> <i>(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here <input type="checkbox"/> , if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.</i>   Signature _____ Date <u>4/11/05</u>  (seal)

\* Attach any exception to certification statement.

## II. FACILITY INFORMATION

### A. GENERAL FACILITY INFORMATION

#### Facility Location and Type

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

#### Facility Contact

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

#### Facility Primary Responsible Official

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

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



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





## FACILITY INFORMATION

### 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) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>3/18/05</u>
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) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>3/18/05</u>
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) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>3/18/05</u>

#### Additional Requirements for Air Construction Permit Applications NA

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

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## **EMISSIONS UNIT INFORMATION**

Section [1] of [1]

### **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.)

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)

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:  
**A**

5. Commence Construction Date:  
**NA**

6. Initial Startup Date:  
**NA**

7. Emissions Unit Major Group SIC Code:  
**32**

8. Acid Rain Unit?  
 Yes  
 No

9. Package Unit:  
Manufacturer:

Model Number:

10. Generator Nameplate Rating: **MW**

11. Emissions Unit Comment:

**EMISSIONS UNIT INFORMATION**

**Section [1] of [1]**

**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**





**EMISSIONS UNIT INFORMATION**

Section [1] of [1]

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

**EMISSIONS UNIT INFORMATION**

Section [1] of [1]

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate: Segment 1 of 7**

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

**Segment Description and Rate: Segment 2 of 7**

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

**EMISSIONS UNIT INFORMATION**

Section [1] of [1]

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

**Segment Description and Rate: Segment 3 of 7**

1. Segment Description (Process/Fuel Type): <b>Solid Waste (tires) used in kiln (tons burned)</b>		
2. Source Classification Code (SCC): <b>3-90-012-99</b>		3. SCC Units: <b>Tons Processed</b>
4. Maximum Hourly Rate: <b>2.14</b>	5. Maximum Annual Rate: <b>18,746.00</b>	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): <b>No. 2, 4, 5, and 6 fuel oil used in kiln.</b>  3?		
2. Source Classification Code (SCC): <b>3-90-005-02</b>		3. SCC Units: <b>Thousand Gallons Burned (all liquid fuels)</b>
4. Maximum Hourly Rate: <b>2.10</b>	5. Maximum Annual Rate: <b>18,536.00</b>	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: <b>141</b>
10. Segment Comment: <b>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. Liquid fuel heating values and sulfur content are consistent.</b>		

**EMISSIONS UNIT INFORMATION**

Section [1] of [1]

**D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)****Segment Description and Rate: Segment 5 of 7**

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

**Segment Description and Rate: Segment 6 of 7**

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

**EMISSIONS UNIT INFORMATION**

Section [1] of [1]

**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): <b>3-90-013-89</b>	3. SCC Units: <b>Thousand Gallons Burned (all liquid fuels)</b>	
4. Maximum Hourly Rate:	5. Maximum Annual Rate: <b>5.0</b>	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: <b>141</b>
10. Segment Comment: <b>Field 5: PSD-FL-233, Cond. B.5(h).</b>		

**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: -		



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



**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: <b>Rule</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.18 lb/ton	4. Equivalent Allowable Emissions: <b>29.70 lb/hour      118.99 tons/year</b>
5. Method of Compliance: <b>EPA Method 5, 3 1-hour runs annually</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>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.</b>	

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

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

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

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

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

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

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



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

**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: <b>DIOX</b>	2. Total Percent Efficiency of Control:
3. Potential Emissions: <b>1.23X10<sup>-7</sup> lb/hour 5.4X10<sup>-7</sup> tons/year</b>	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable):	
6. Emission Factor:  Reference: <b>40 CFR 63 Subpart LLL</b>	7. Emissions Method Code: <b>0</b>
8. Calculation of Emissions:	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: <b>0.40 ng TEQ/dscm (1.7X10<sup>-10</sup> 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.</b>	

**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: <b>RULE</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: lb/ton	4. Equivalent Allowable Emissions: <b>1.23X10<sup>-7</sup> lb/hour 5.4X10<sup>-7</sup> tons/year</b>
5. Method of Compliance: <b>EPA Method 23</b>	
6. Allowable Emissions Comment (Description of Operating Method): <b>0.40 ng TEQ/dscm (1.7X10<sup>-10</sup> 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</b>	

**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):	



**EMISSIONS UNIT INFORMATION**

Section [1] of [1]

**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: <b>VE</b>	2. Pollutant(s):
3. CMS Requirement:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: <b>Lear Seigler</b> Model Number: <b>1100M</b> Serial Number: <b>1287</b>	
5. Installation Date: <b>12-Jan-1991</b>	6. Performance Specification Test Date: <b>01-Dec-1991</b>
7. Continuous Monitor Comment: <b>40 CFR 60.63(b)</b>	

**Continuous Monitoring System:** Continuous Monitor \_\_\_ of \_\_\_

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

**.EMISSIONS UNIT INFORMATION**

Section [1] of [1]

**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) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date <u>3/18/05</u>
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) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date <u>3/18/05</u>
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) <input checked="" type="checkbox"/> Attached, Document ID: <u>1</u> <input type="checkbox"/> 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) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date <u>3/18/05</u> <input type="checkbox"/> 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) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date <u>3/18/05</u> <input type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records <input type="checkbox"/> Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>06/16/05</u> Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ <input checked="" type="checkbox"/> 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: \_\_\_\_\_

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)) <input checked="" type="checkbox"/> Attached, Document ID: 1 _____ <input type="checkbox"/> 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.) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**Additional Requirements for Title V Air Operation Permit Applications NA**

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



**Additional Requirements Comment**

**Attachment 1 - Description of Proposed Construction or Modification / Control Technology  
Review and Analysis / Detailed Description of Control Equipment**

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)

<b>Mix Component %</b>	<b>7-30-04 Kiln #2 Compliance Test Bauxite</b>	<b>8-6-04 Kiln #1 Compliance Test Bauxite</b>	<b>12-01-04 Kiln #2 Diagnostic Test Clay</b>	<b>3-31-05 Kiln #2 Compliance Test Increased Fly Ash</b>	<b>4-1-05 Kiln #1 Compliance Test Increased Fly Ash</b>	<b>2005 Mixed Design Post Outage Pending Retest</b>
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

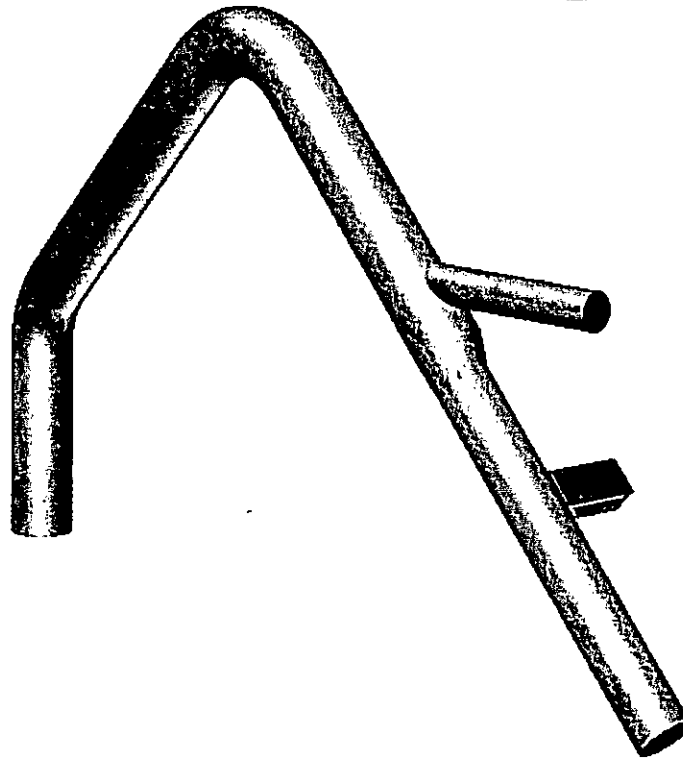
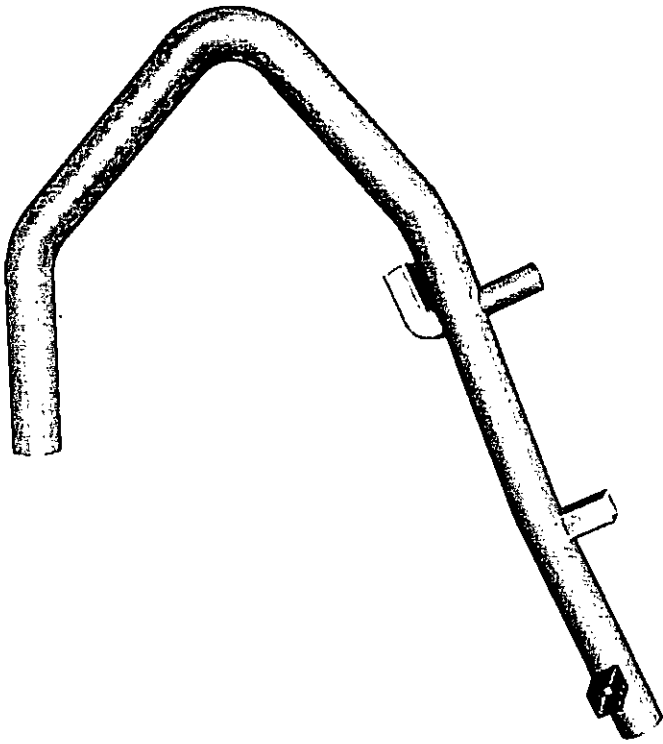
- Test results confirm CEMEX's findings regarding the importance of gas cooling techniques to prevent the formation of DF.
- With efficient air cooling and mixing, D/F formation is prohibited and raw material mix designs are not relevant.
- Kiln #2 DF Test Results with Raw Mill Bypass Cooling Technique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

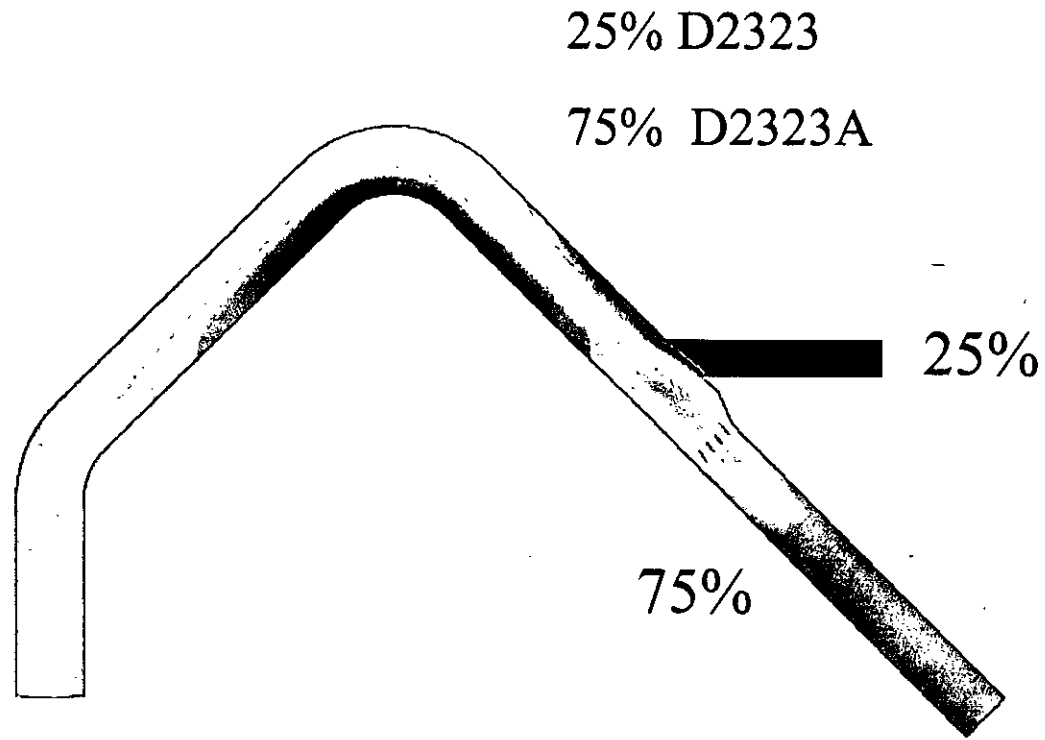
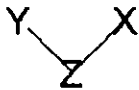
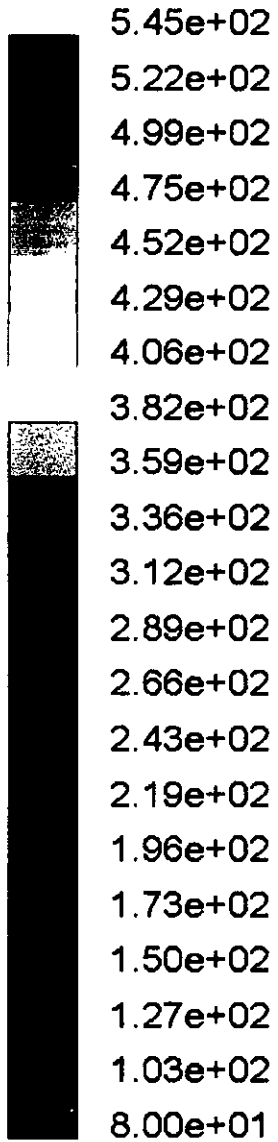
# Bypass Cooling Efficiencies Study

- 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

5.45e+02

25% Cooling Flow in D323

No Cooling Flow Lift Air 4'

5.22e+02

75% Cooling Flow in D323A

No Cooling Flow New 4'

4.99e+02

4.75e+02

4.52e+02

4.29e+02

4.06e+02

3.82e+02

3.59e+02

3.36e+02

3.12e+02

2.89e+02

2.66e+02

2.43e+02

2.19e+02

1.96e+02

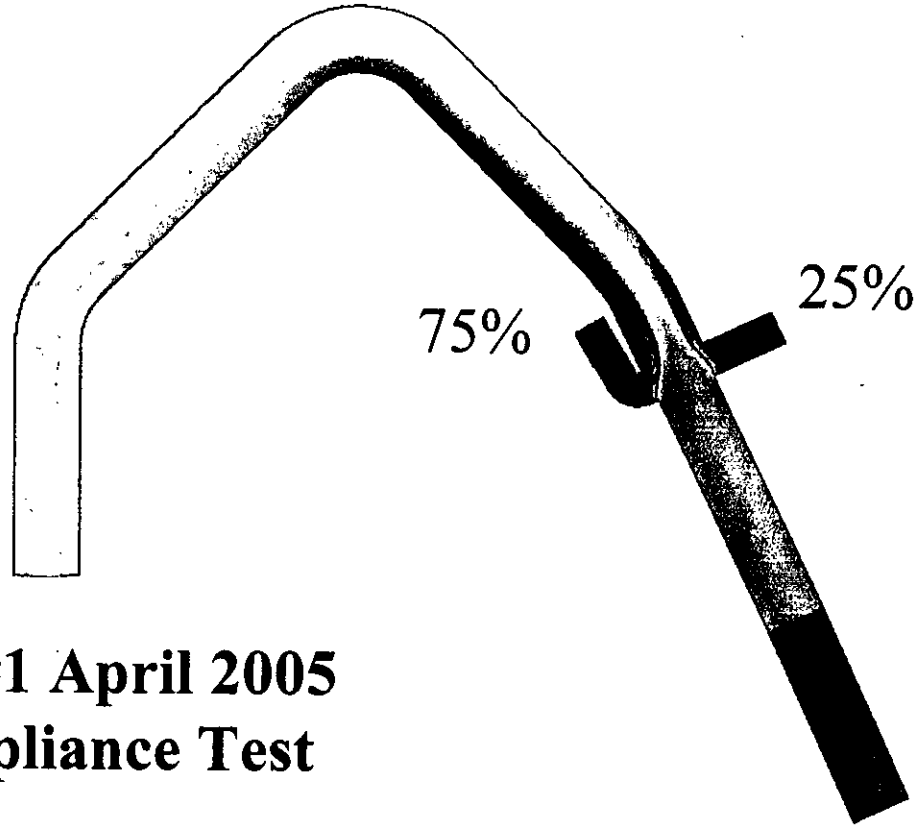
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1.50e+02

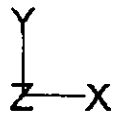
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8.00e+01

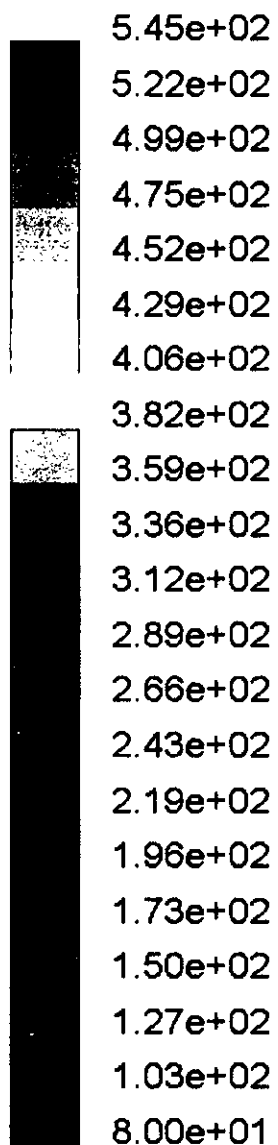


**Kiln #1 April 2005  
Compliance Test**



Contours of Static Temperature (f)

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

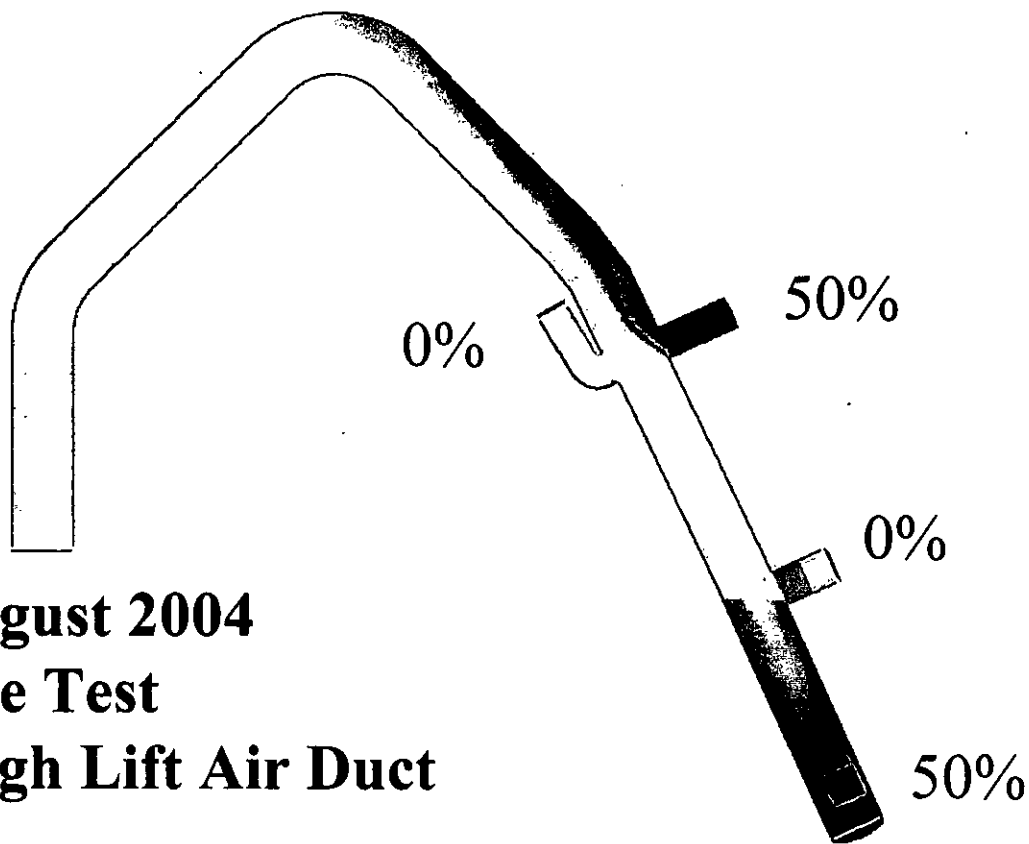


50% Cooling Flow in D323

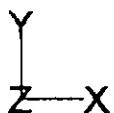
50% Cooling Flow Lift Air 4'

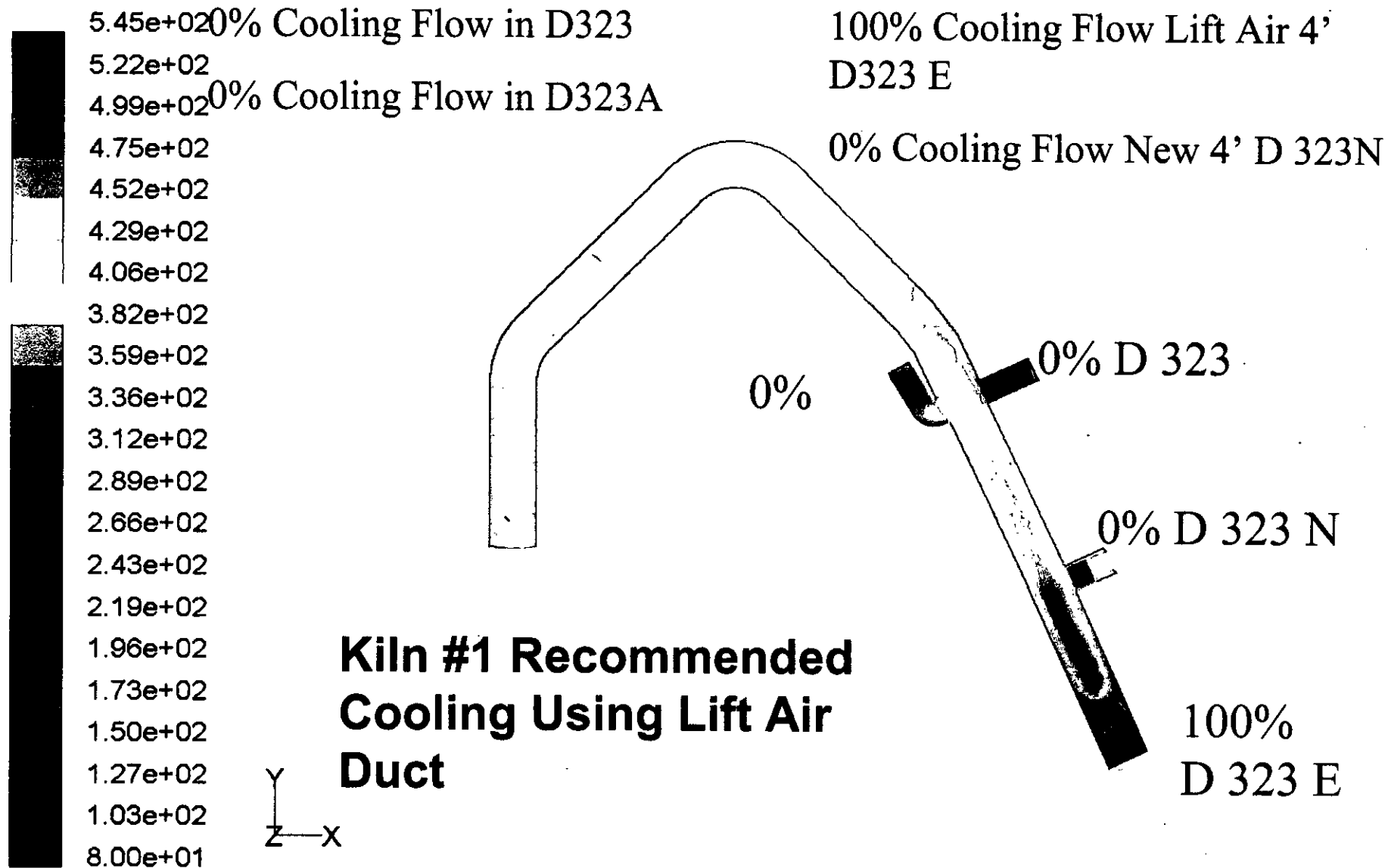
0% Cooling Flow in D323A

0% Cooling Flow 4'



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





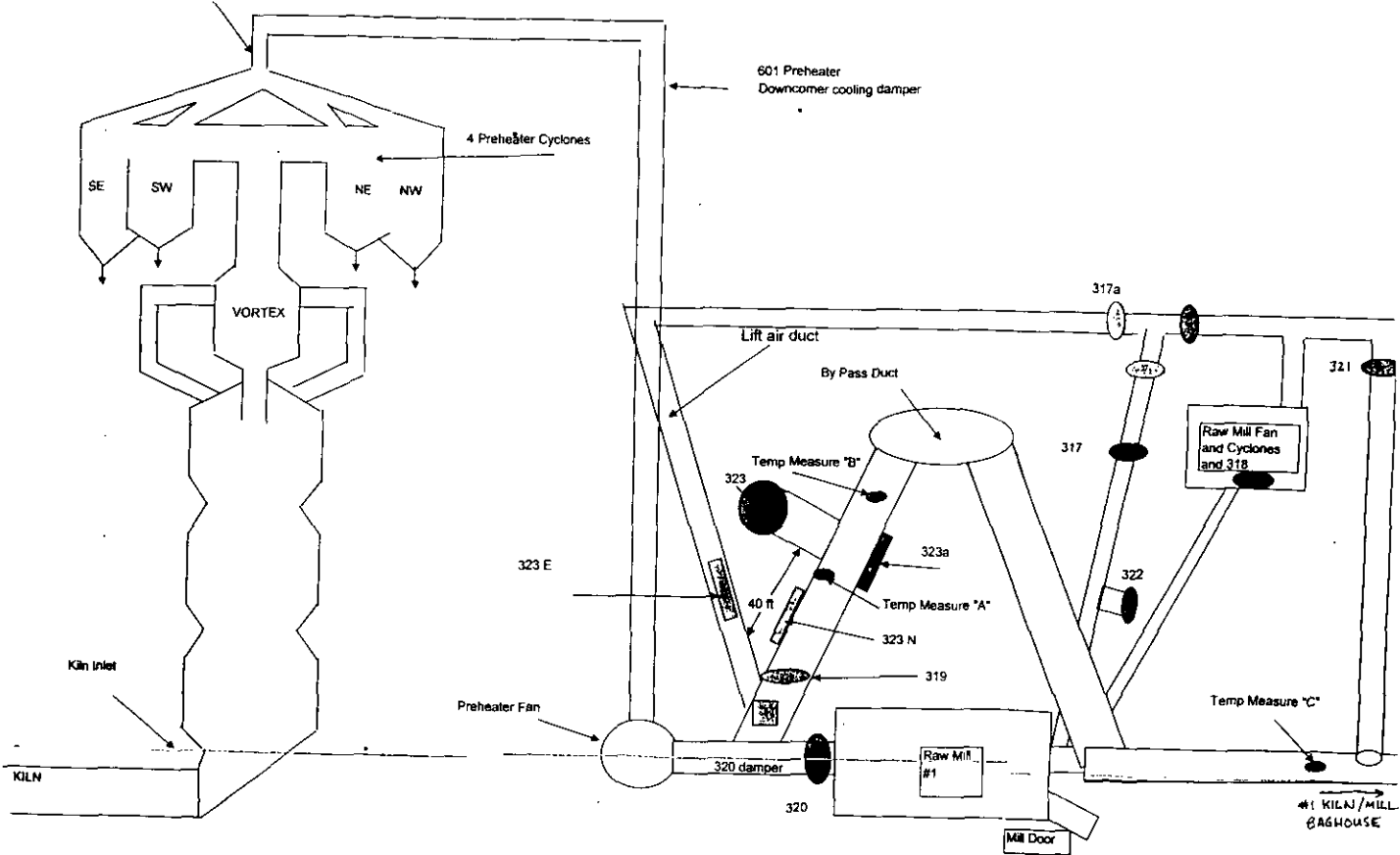
# CEMEX Action Plan

- 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

Preheater Exit



**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.

**RECEIVED**

JUL 14 2006

BUREAU OF AIR REGULATION

Ms. Mara G. Nasca  
July 13, 2006

2

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](mailto: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 13<sup>th</sup> Street  
Gainesville, FL 32609-1923  
Professional Engineer Telephone No.: 352.377.5822  
Professional Engineer Email Address: [jkoogler@kooglerassociates.com](mailto: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

7/19/2006

\_\_\_\_\_  
Date



**Attachment A**  
**Control Operating Procedures**





## **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.

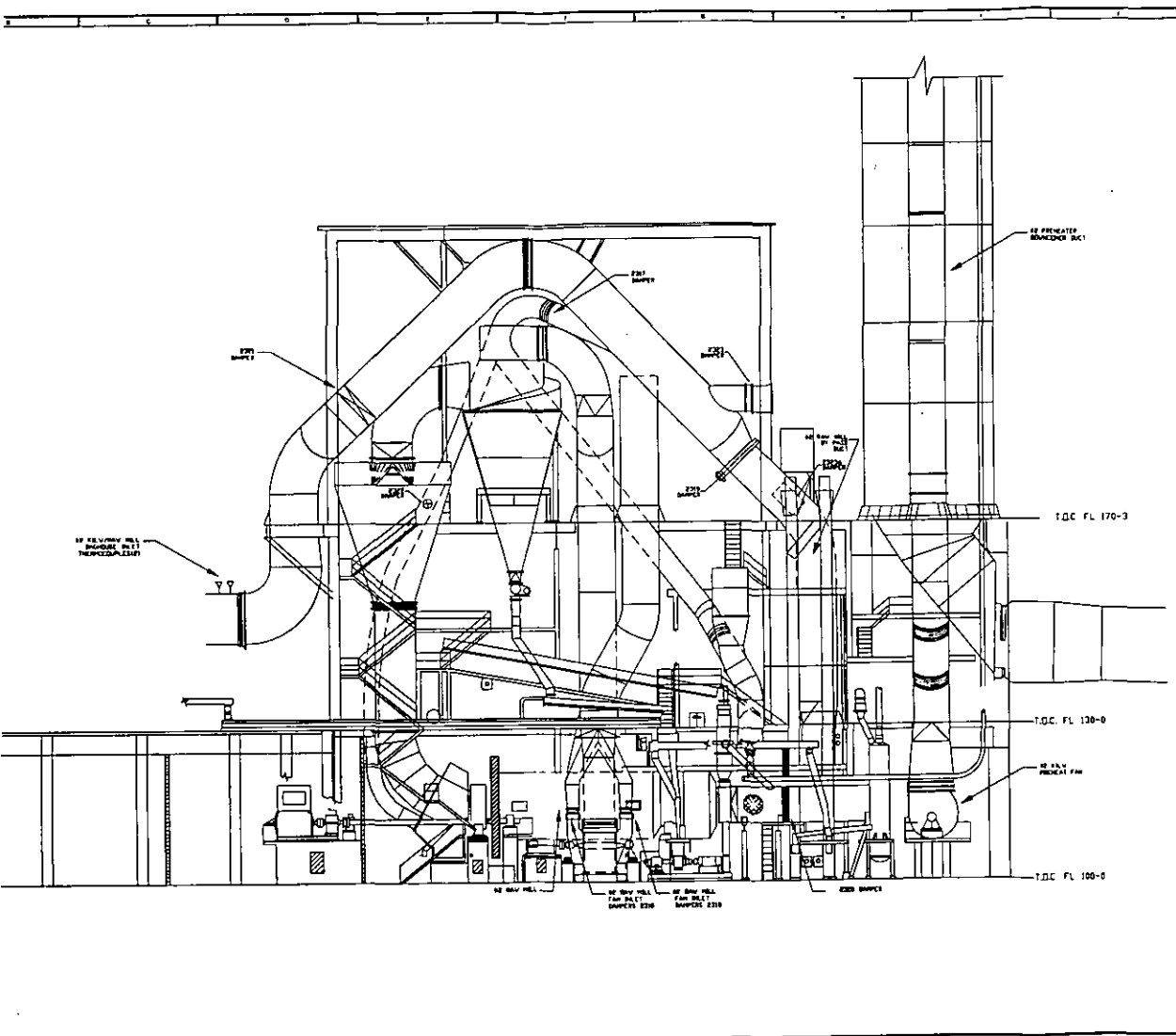
Close the 2320 damper to fully isolate the mill.

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	
82 RAW MILL BY PASS DUCTING	
This plan shall not be used as a construction document, unless stamped, approved for construction.	
<b>CIVIL-TECH CONSULTING</b> <b>ENGINEERS, INC.</b> 15 CIVIL ENGINEERS & PLANNERS 1500 GARDEN CITY PLAZA, SUITE 1000 GARDEN CITY, N.Y. 11530 Phone - (516) 794-1310 / Fax - (516) 794-1303 Telex - 250000 Cable - 250000	
PROJECT NO. _____ DRAWING NO. _____ SHEET NO. _____ DATE _____	
2 OF 3	

**Attachment C**  
**Process Flow Diagrams**



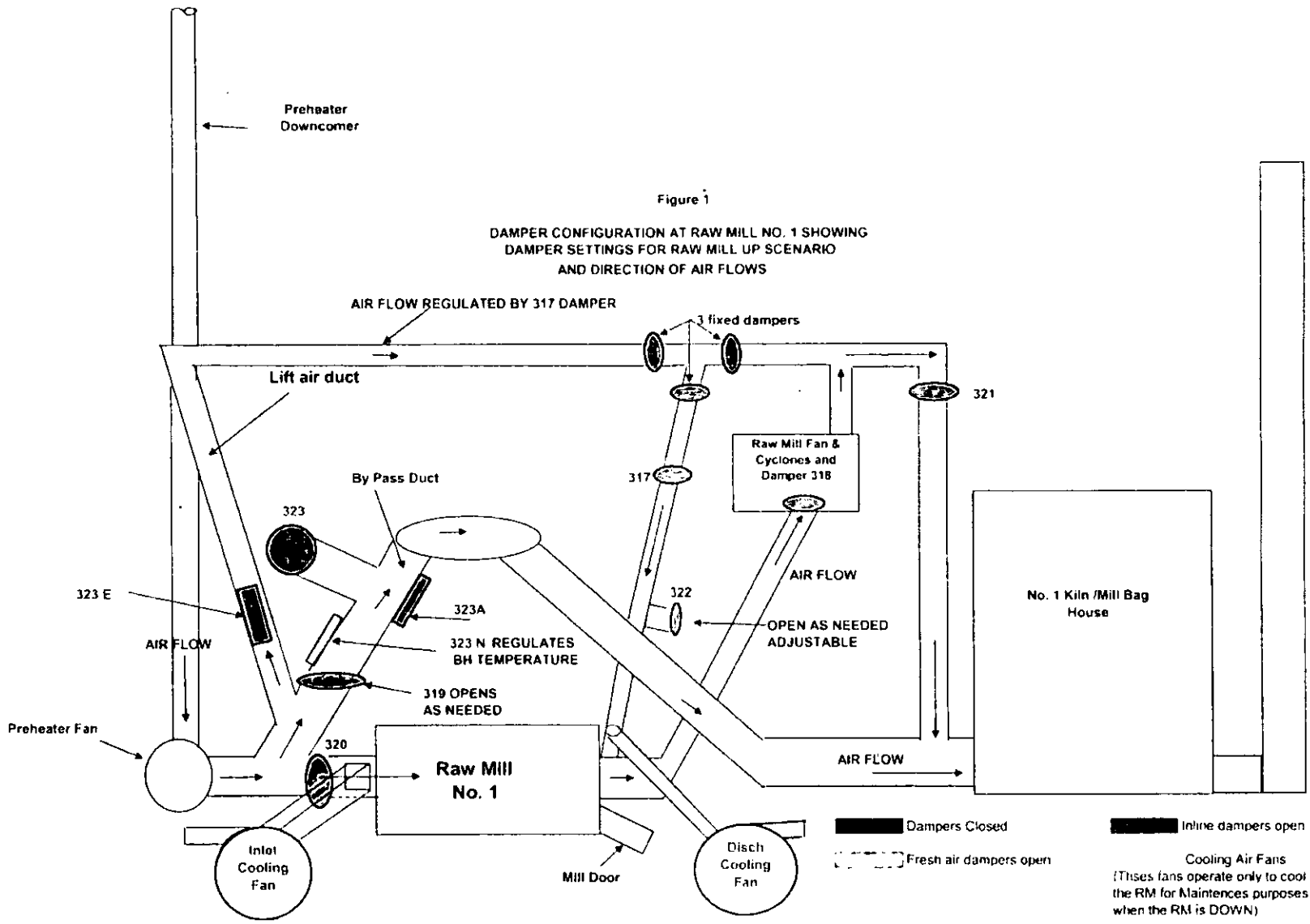


Figure 2

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

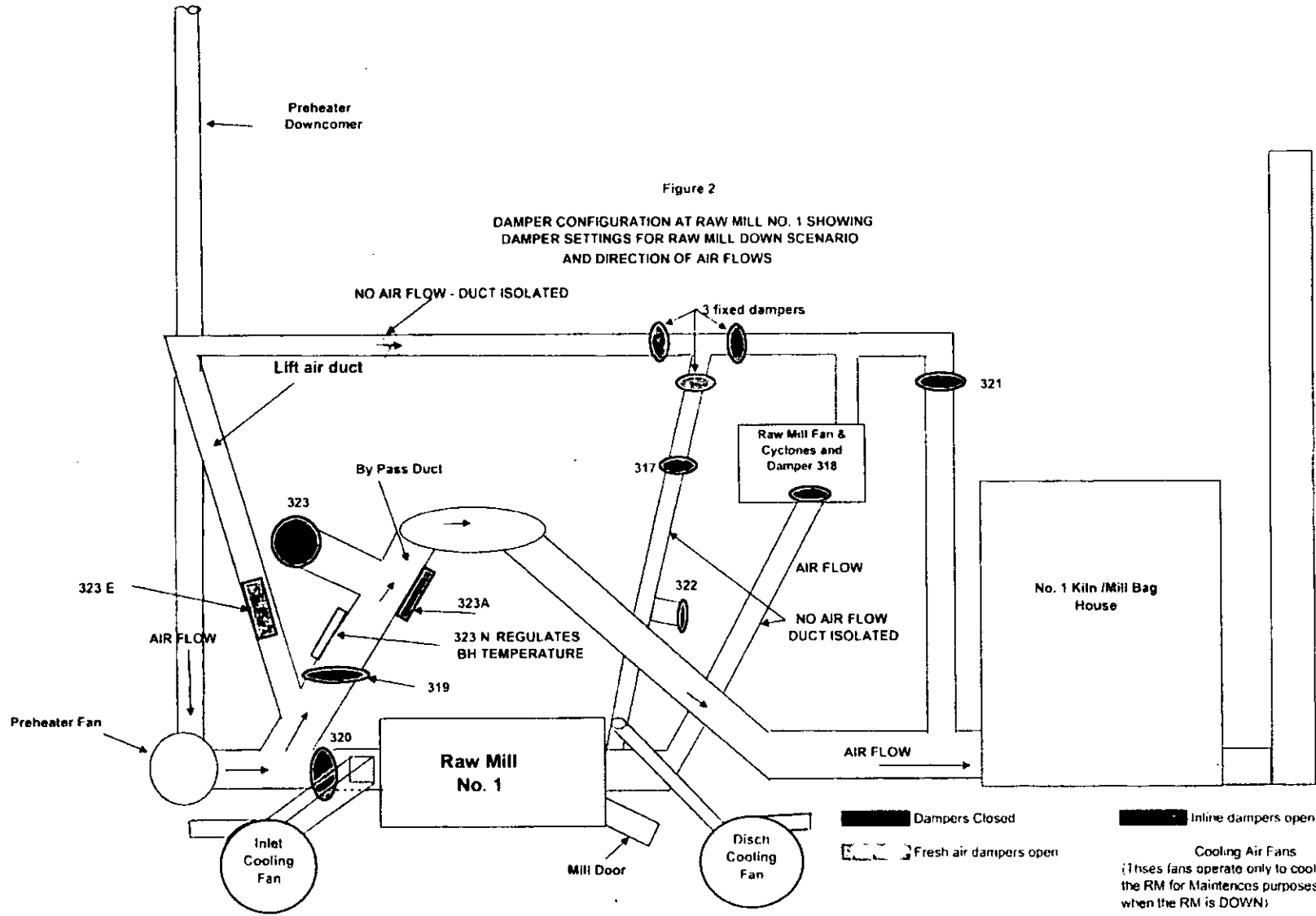
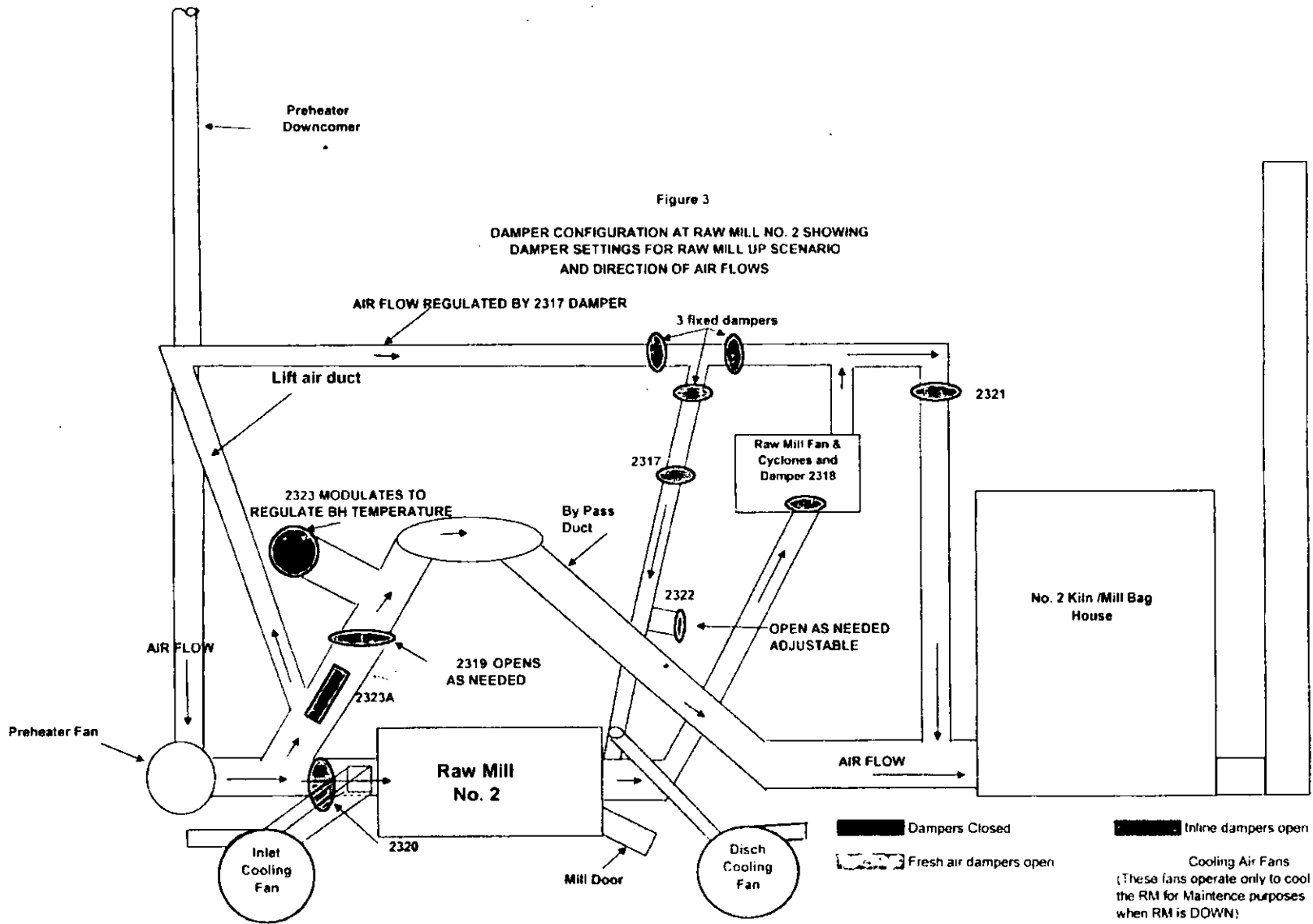
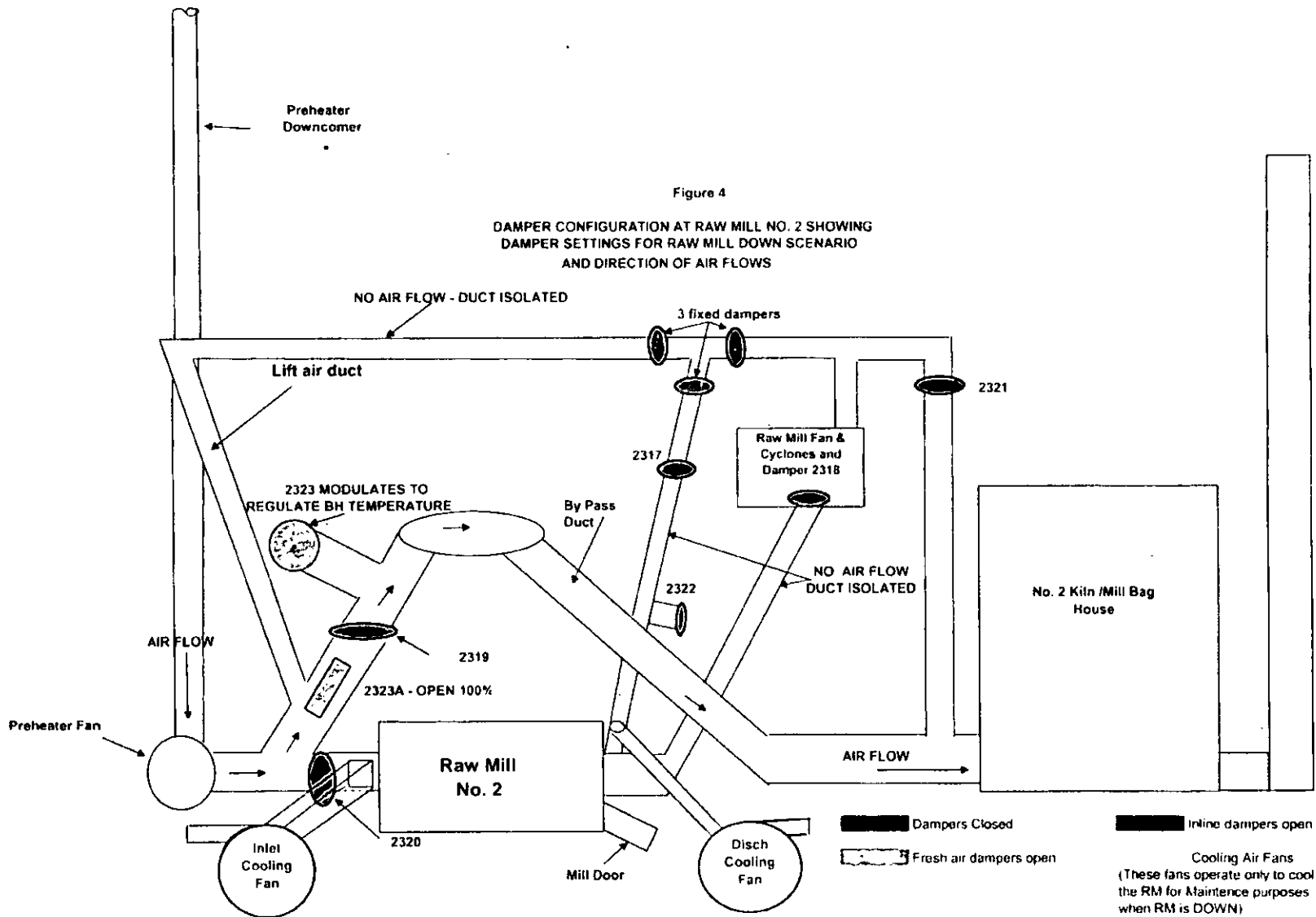




Figure 3

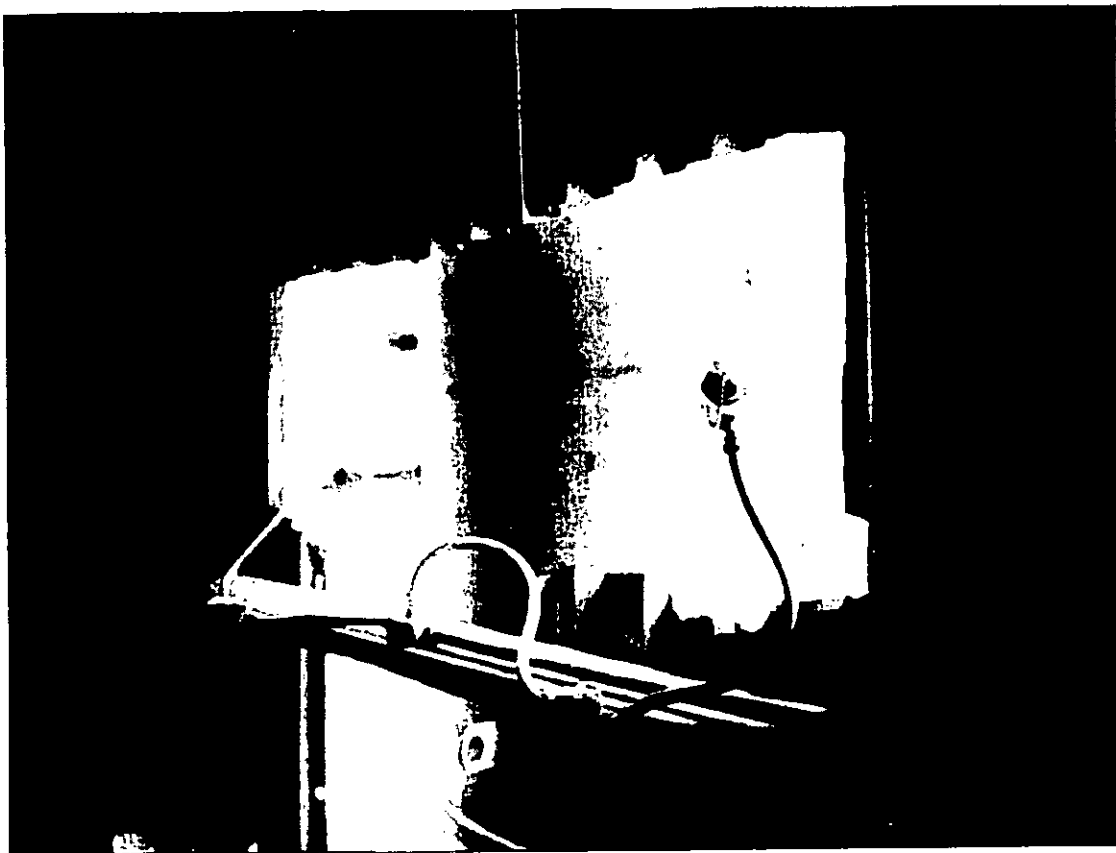
DAMPER CONFIGURATION AT RAW MILL NO. 2 SHOWING  
DAMPER SETTINGS FOR RAW MILL UP SCENARIO  
AND DIRECTION OF AIR FLOWS





**Attachment B**  
**Engineering Drawings of Bypass Ductwork Showing Dampers**





**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

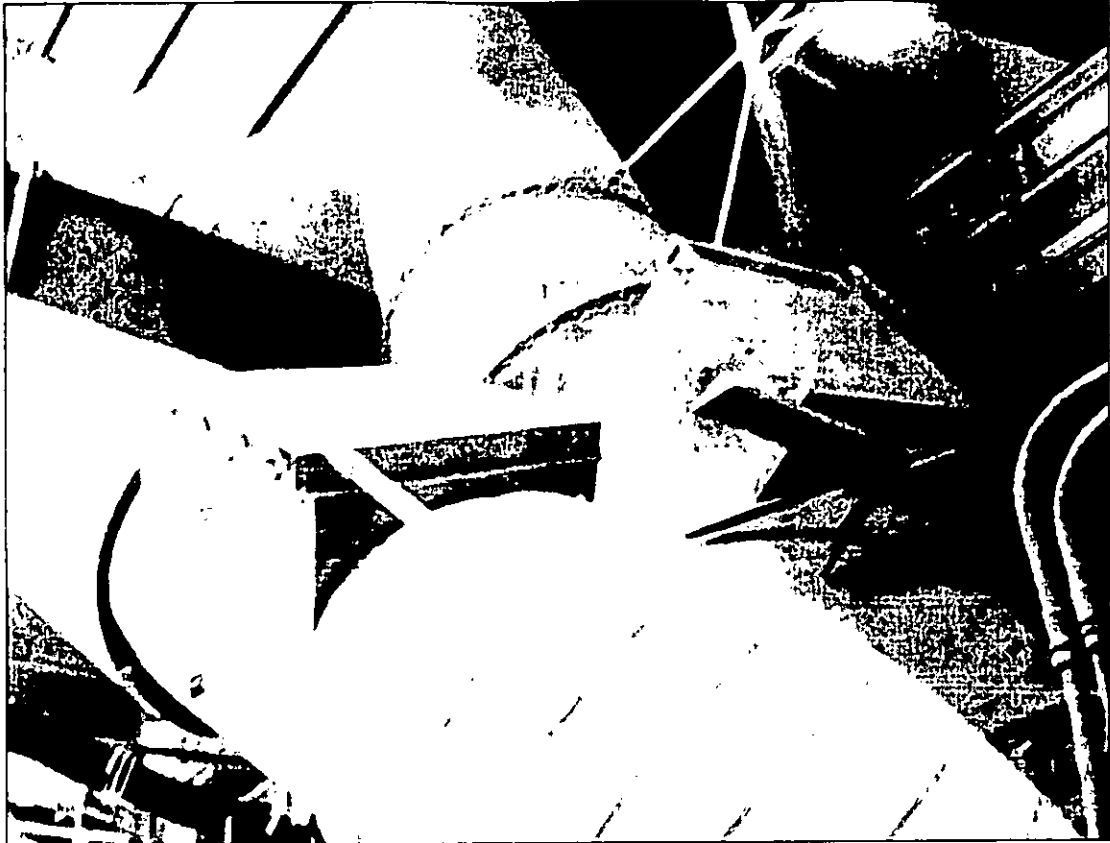
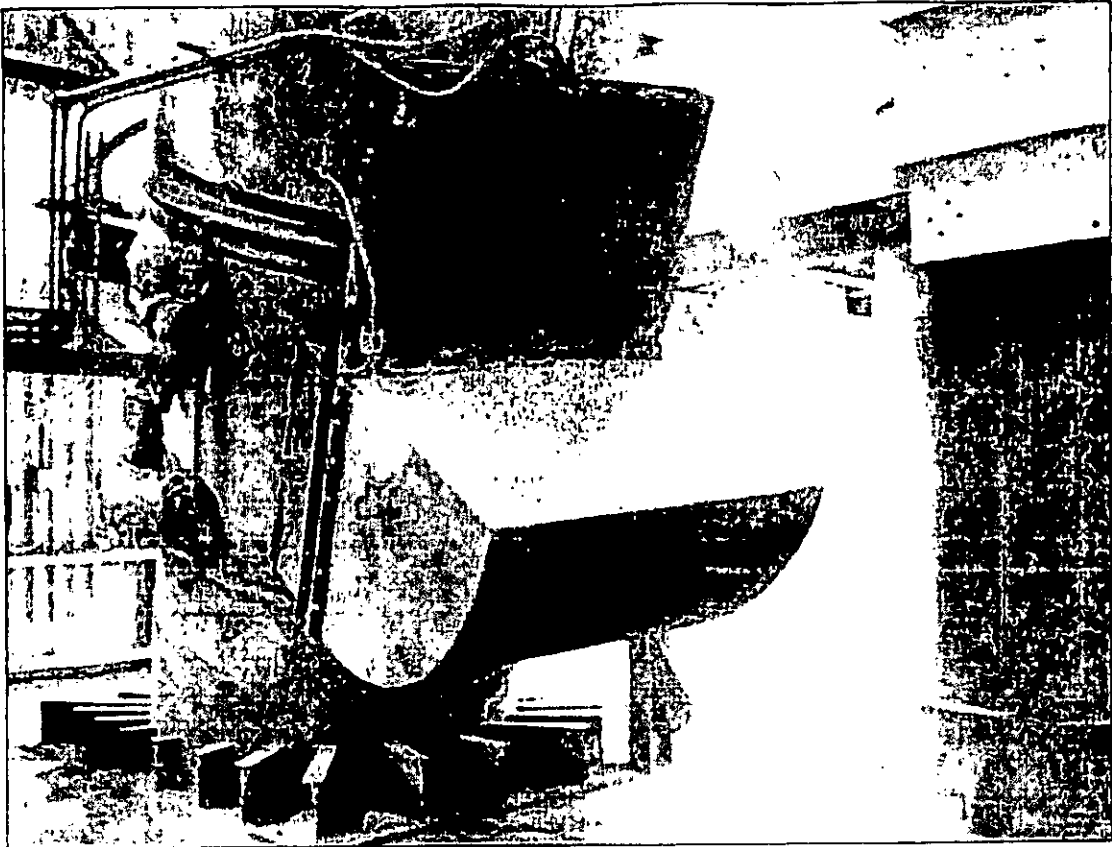


Figure 4: Raw Mill #1 Dampers 323E left side, 323 N rt side.



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





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

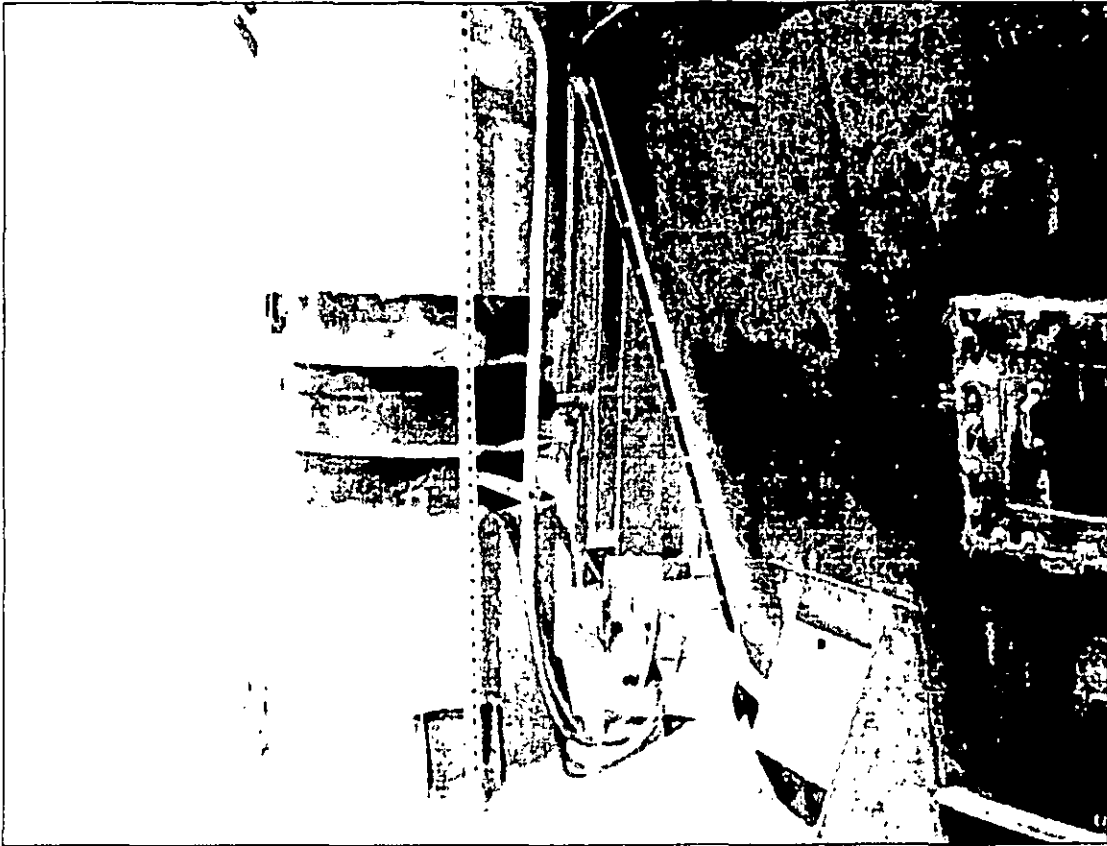


Figure 7: Raw Mill #1 317 Damper.



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



**Figure 9:** Raw Mill #1 320 Damper.

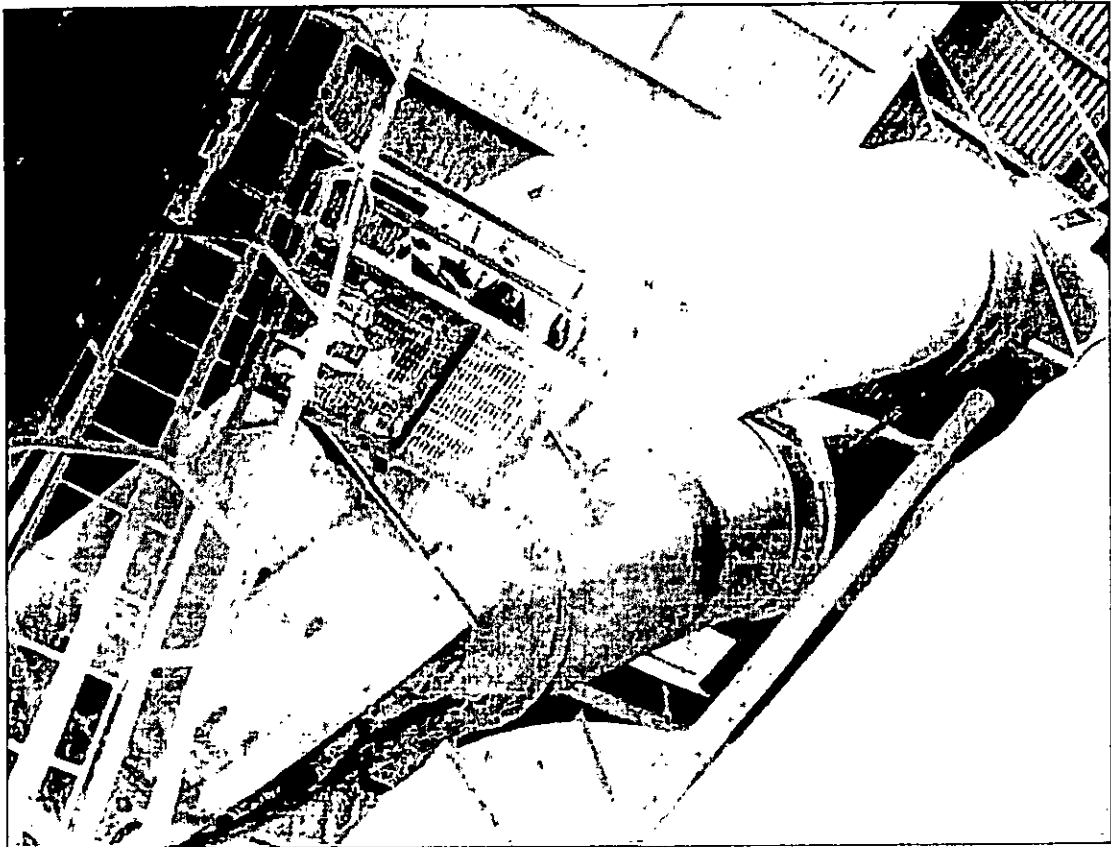


Figure 10: Raw Mill #1 321 Damper.

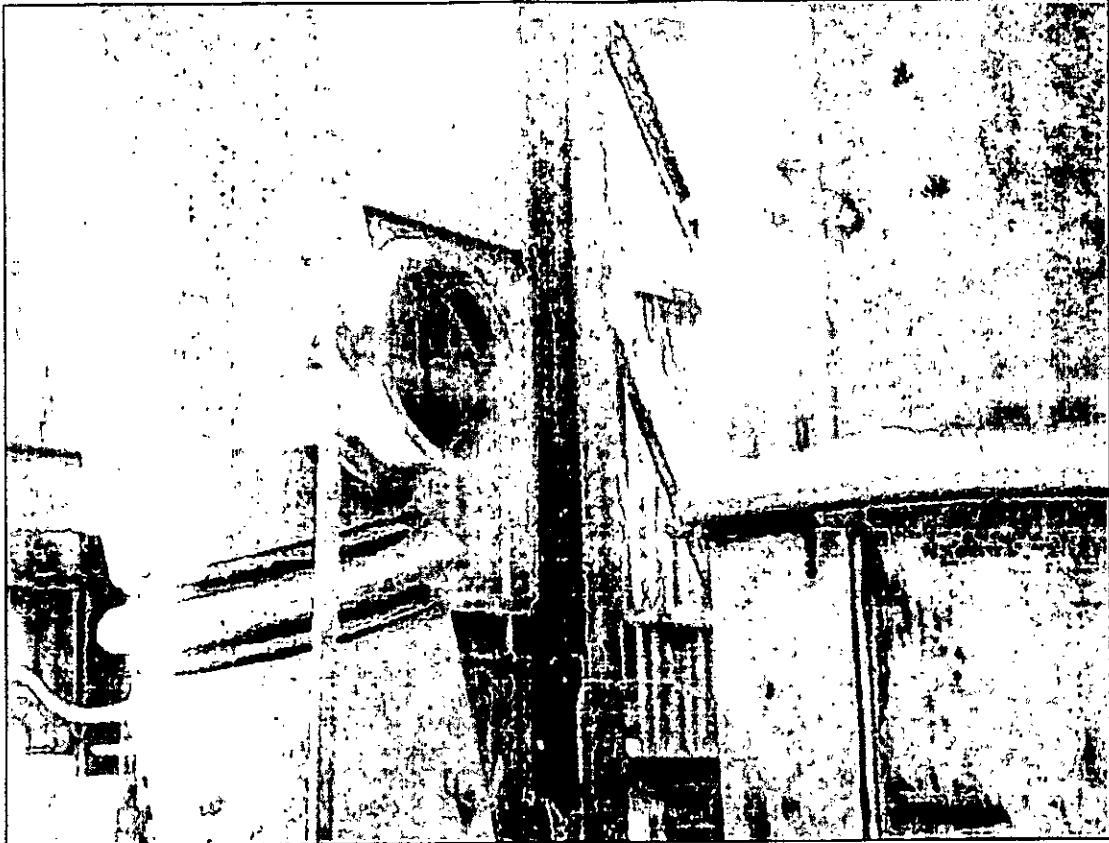


Figure 11: Raw Mill #1 322 Damper.

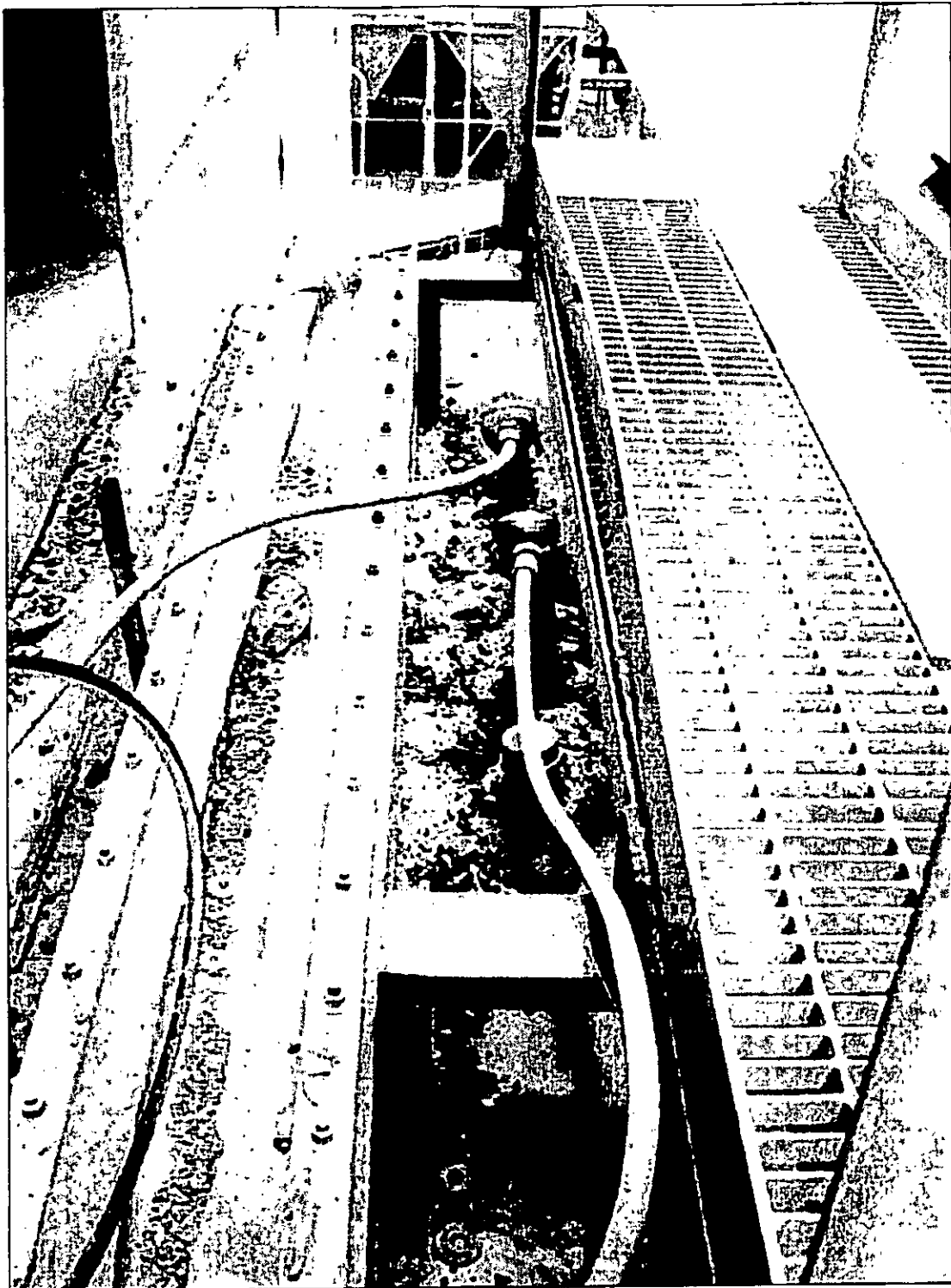


Figure 12: #2 Kiln—Raw Mill BH Inlet Thermocouples.



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



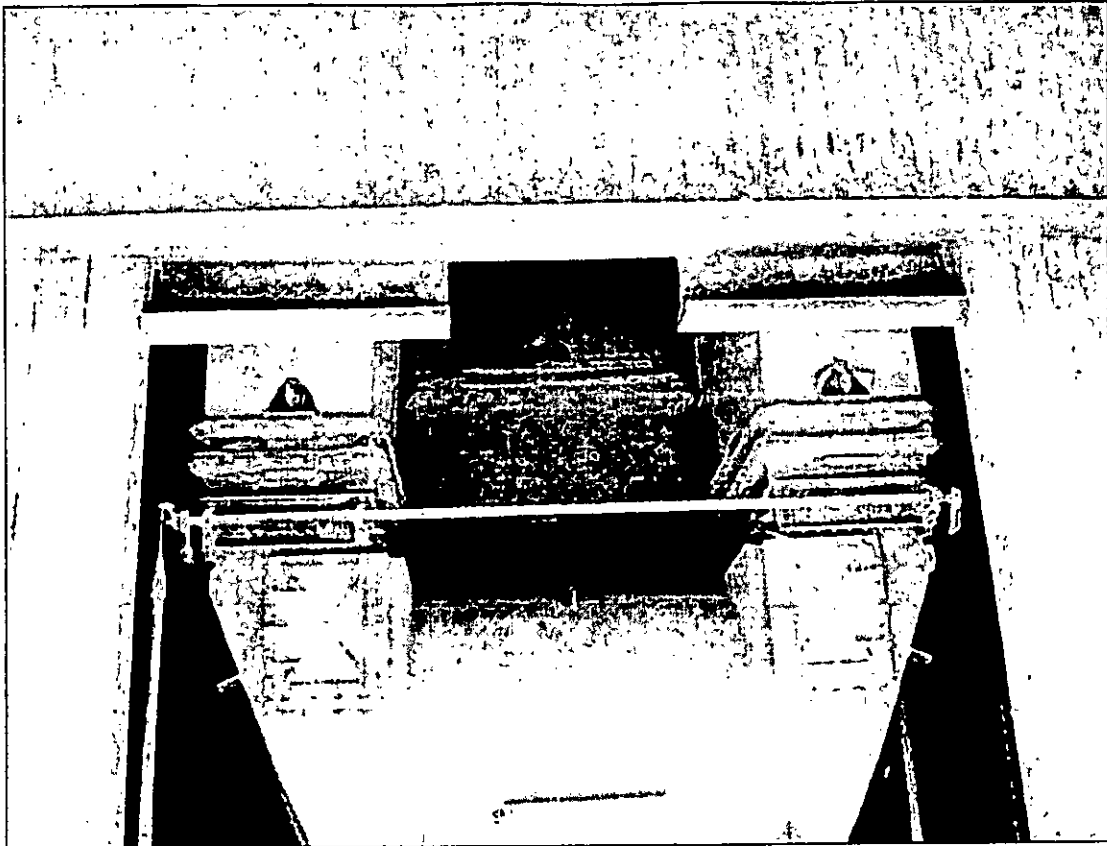


Figure 14: Raw Mill #2 2318 Fan inlet Dampers.

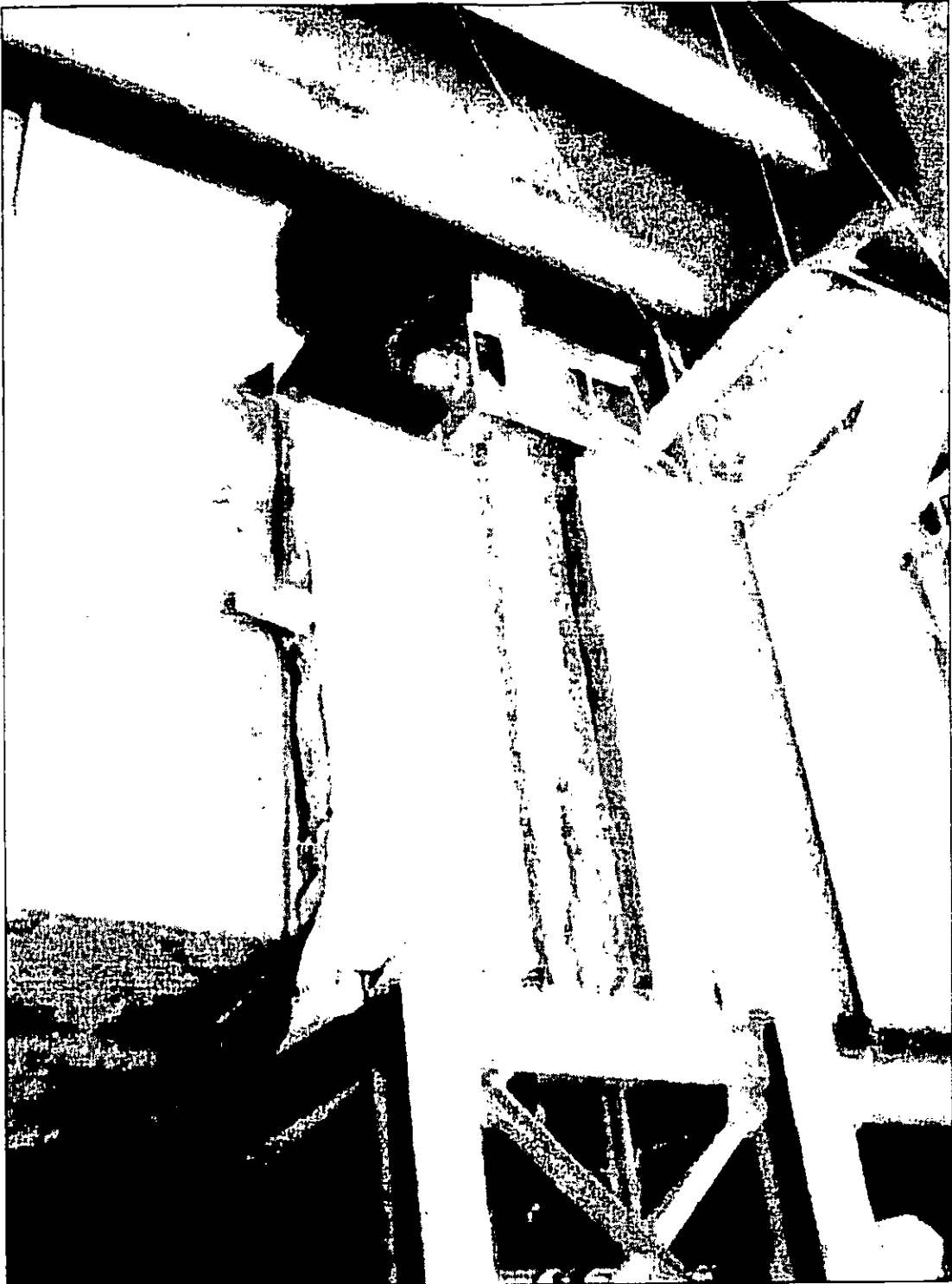


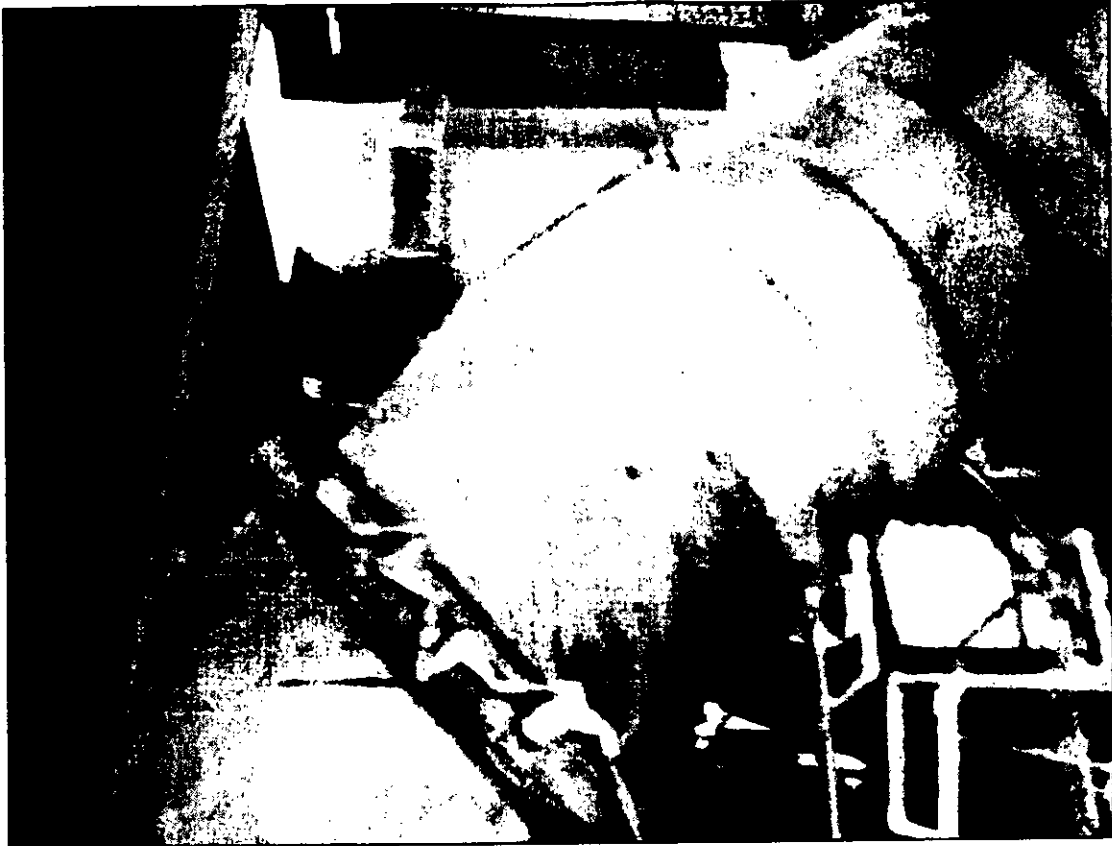
Figure 15: Raw Mill #2 2320 Damper.



**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.

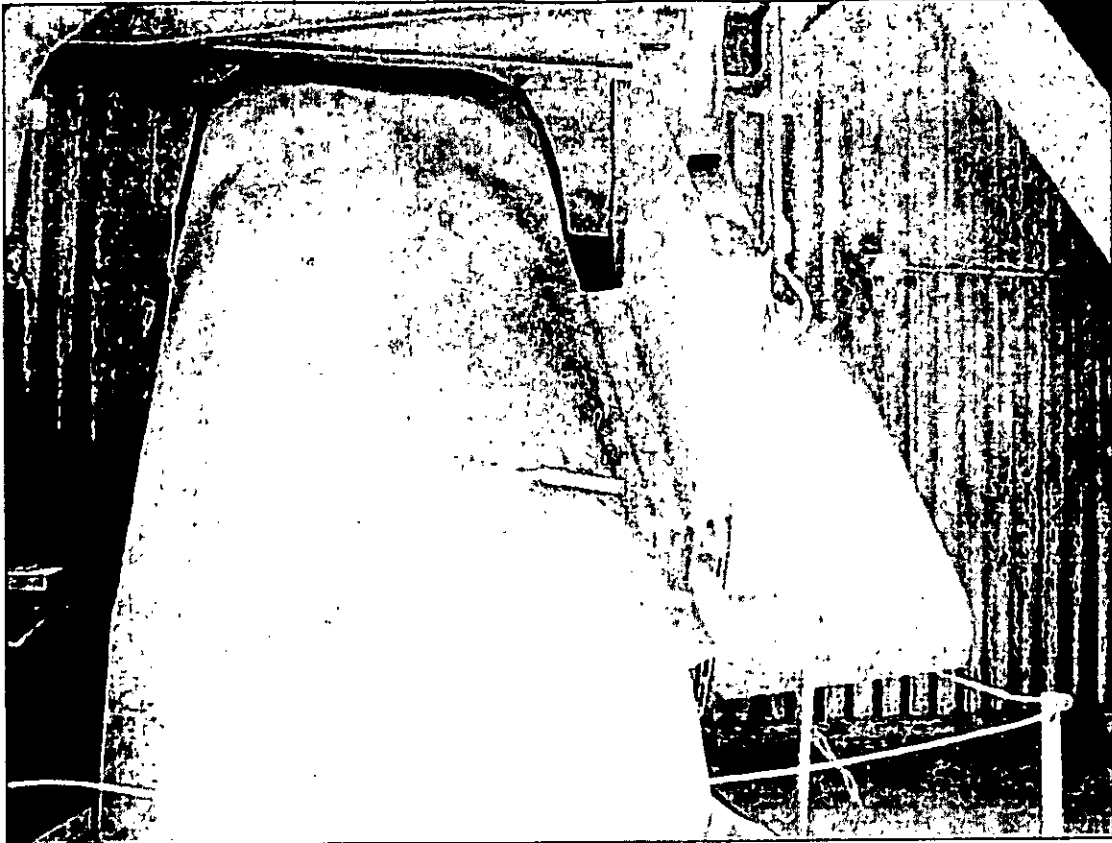
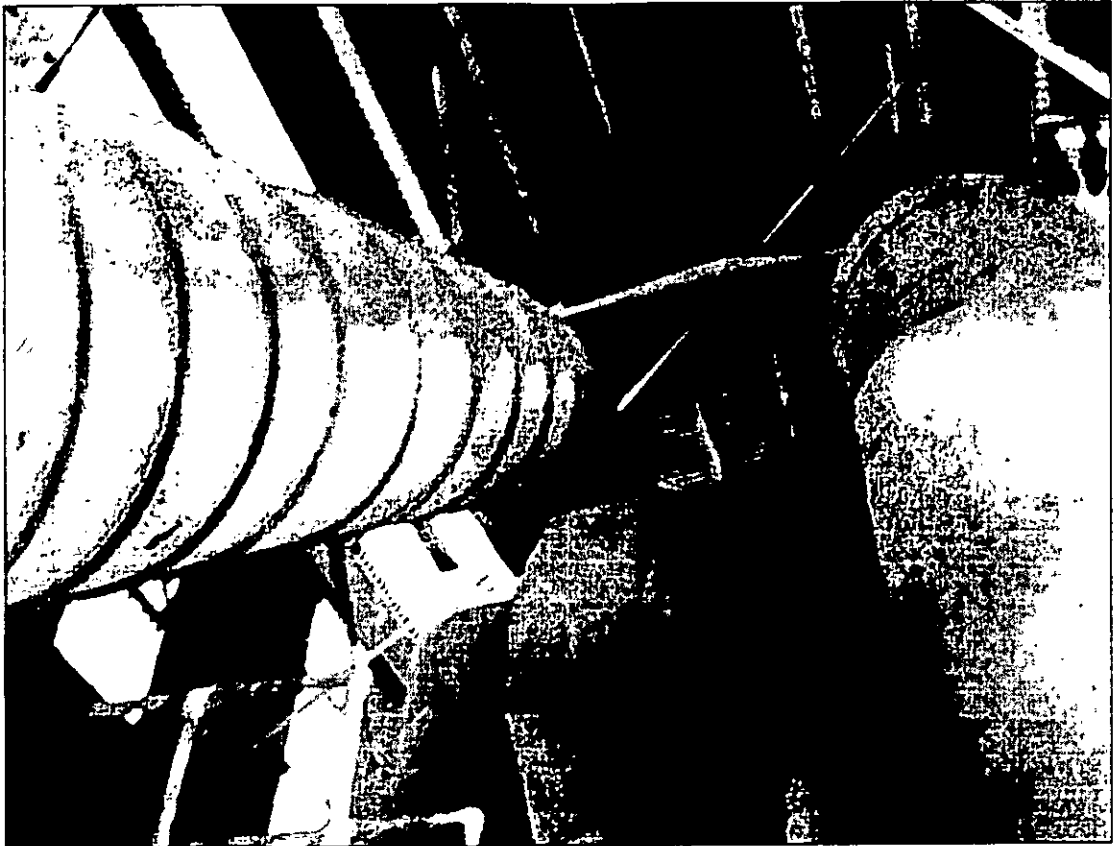


Figure 19: Raw Mill #2 2323A Damper.



**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.

0530010

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](mailto:jkoogler@kooglerassociates.com) . A signed and sealed hard copy of this correspondence will follow.

Very truly yours

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