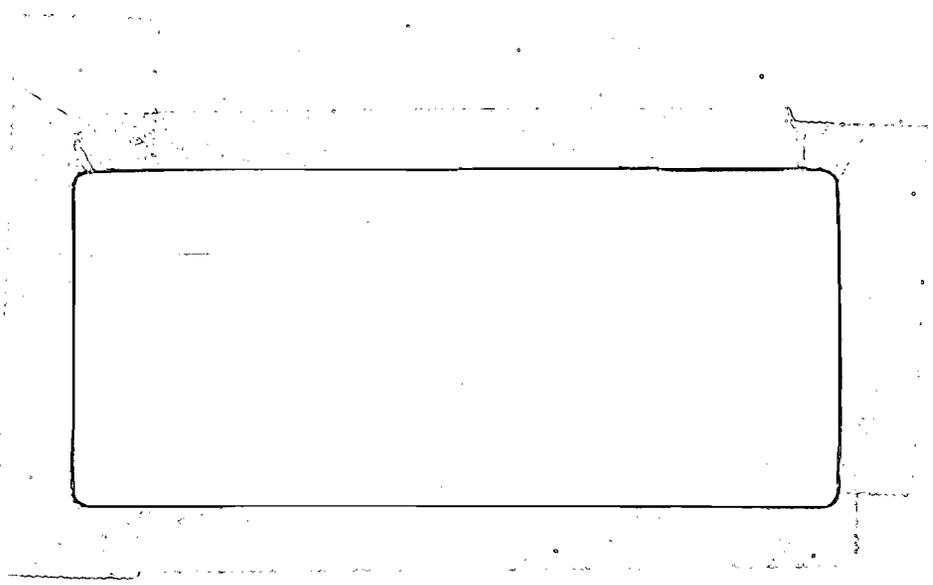


Golder Associates

RECEIVED
JUN 30 1998
Air Quality
Management Division

AIR APPLICATION FOR
DRY PROCESS CEMENT PLANT
TARMAC AMERICA, INC.
MEDLEY, FLORIDA

7/8/80
PSD-FL-050
OP AC 13 238086
Coal Handling
Kiln No 1-2 to coal firing
91
PSD FL-142
Kiln 2
PSD-FL-

Prepared For:

Tarmac America, Inc.
455 Fairway Drive
Deerfield Beach, Florida 33441

Prepared By:

Golder Associates Inc.
6241 NW 23rd Street, Suite 500
Gainesville, Florida 32653-1500

June 1998
9837530Y\F1

Department of
Environmental Protection

DIVISION OF AIR RESOURCES MANAGEMENT

APPLICATION FOR AIR PERMIT - LONG FORM

See Instructions for Form No. 62-210.900(1)

I. APPLICATION INFORMATION

This section of the Application for Air Permit form identifies the facility and provides general information on the scope and purpose of this application. This section also includes information on the owner or authorized representative of the facility (or the responsible official in the case of a Title V source) and the necessary statements for the applicant and professional engineer, where required, to sign and date for formal submittal of the Application for Air Permit to the Department. If the application form is submitted to the Department using ELSA, this section of the Application for Air Permit must also be submitted in hard-copy.

Identification of Facility Addressed in This Application

Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility site name, if any; and the facility's physical location. If known, also enter the facility identification number.

1. Facility Owner/Company Name: **Tarmac America, Inc.**	
2. Site Name: **Tarmac Pennsuco**	
3. Facility Identification Number: **0250020**	[ ] Unknown
4. Facility Location Information: Street Address or Other Locator: **11000 N.W. 121 Way** City: **Medley** County: **Dade** Zip Code: **33178**	
5. Relocatable Facility? [ ] Yes [X] No	6. Existing Permitted Facility? [X] Yes [ ] No

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Permit Number:	
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official:

   Scott Quaas, Environmental Manager

2. Owner/Authorized Representative or Responsible Official Mailing Address:

Organization/Firm: **Tarmac America, Inc.**
Street Address: **455 Fairway Drive**
City: **Deerfield Beach** State: **FL** Zip Code: **33441**

3. Owner/Authorized Representative or Responsible Official Telephone Numbers:

Telephone: **(954) 425-4165** Fax: **(954) 480-9352**

4. Owner/Authorized Representative or Responsible Official Statement:

I, the undersigned, am the owner or authorized representative of the non-Title V source addressed in this Application for Air Permit or the responsible official, as defined in Rule 62-210.200, F.A.C., of the Title V source addressed in this application, whichever is applicable. 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. 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 any permitted emissions unit.*

Signature

JUN 2 9 1998

Date

* Attach letter of authorization if not currently on file.

Scope of Application

This Application for Air Permit addresses the following emissions unit(s) at the facility. An Emissions Unit Information Section (a Section III of the form) must be included for each emissions unit listed.

Emissions Unit ID		Description of Emissions Unit	Permit Type
Unit #	Unit ID		
1R	---	Coal Handling System	AC1C
2R	---	Raw Mill and Pyroprocessing Unit	AC1C
3R	---	Finish Mill #1 - #5	AC1C
4R	---	Clinker Handling and Storage	AC1C
5R	---	Cement Stg,Packhouse,& Loadout	AC1C

See individual Emissions Unit (EU) sections for more detailed descriptions.
Multiple EU IDs indicated with an asterisk (*). Regulated EU indicated with an "R".

Purpose of Application and Category

Check one (except as otherwise indicated):

Category I: All Air Operation Permit Applications Subject to Processing Under Chapter 62-213, F.A.C.

This Application for Air Permit is submitted to obtain:

[ ] Initial air operation permit under Chapter 62-213, F.A.C., for an existing facility which is classified as a Title V source.

[ ] Initial air operation permit under Chapter 62-213, F.A.C., for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number: _____

[ ] Air operation permit renewal under Chapter 62-213, F.A.C., for a Title V source.

Operation permit to be renewed: _____

[ ] Air operation permit revision for a Title V source to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: _____

Operation permit to be renewed: _____

[ ] Air operation permit revision or administrative correction for a Title V source to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. Also check Category III.

Operation permit to be revised/corrected: _____

_____

[ ] Air operation permit revision for a Title V source for reasons other than construction or modification of an emissions unit. Give reason for the revision e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit to be revised: _____

Reason for revision: _____

_____

Category II: All Air Construction Permit Applications Subject to Processing Under Rule 62-210.300(2)(b),F.A.C.

This Application for Air Permit is submitted to obtain:

[ ] Initial air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s): _____

_____

[ ] Renewal air operation permit under Rule 62-210.300(2)(b), F.A.C., for a synthetic non-Title V source.

Operation permit to be renewed: _____

[ ] Air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g.; to address one or more newly constructed or modified emissions units.

Operation permit to be revised: _____

Reason for revision: _____

_____

Category III: All Air Construction Permit Applications for All Facilities and Emissions Units.

This Application for Air Permit is submitted to obtain:

[X] Air construction permit to construct or modify one or more emissions units within a facility (including any facility classified as a Title V source).

Current operation permit number(s), if any: _____

AO-13-238048

[ ] Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

Current operation permit number(s): _____

_____

[ ] Air construction permit for one or more existing, but unpermitted, emissions units.

Application Processing Fee

Check one:

[X] Attached - Amount: **$ 4,500.00** [ ] Not Applicable.

Construction/Modification Information

1. Description of Proposed Project or Alterations:

Project involves construction of new preheater/calciner/kiln, cooler, coal mill and raw mill to replace existing kilns and coolers system. A new finish mill will be constructed in addition to the existing finish mills. See Attachment A for futher information.

2. Projected or Actual Date of Commencement of Construction :

1 Jan 1999

3. Projected Date of Completion of Construction :

1 Jun 2001

Professional Engineer Certification

1. Professional Engineer Name: **David A. Buff**
   Registration Number: **19011**

2. Professional Engineer Mailing Address:
   Organization/Firm: **Golder Associates Inc.**
   Street Address: **6241 NW 23rd Street, Suite 500**
   City: **Gainesville** State: **FL** Zip Code: **32653-1500**

3. Professional Engineer Telephone Numbers:
   Telephone: **(352) 336-5600** Fax: **(352) 336-6603**

4. Professional Engineer's Statement:

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

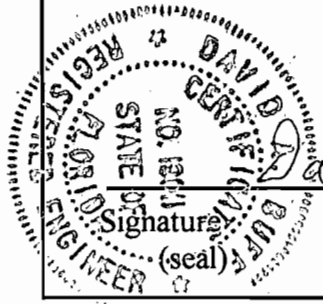
(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions 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.

If the purpose of this application is to obtain a Title V source 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 schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X] 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.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision 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.



David A. Buff
Signature (seal)

June 27, 1998
Date

* Attach any exception to certification statement.

Application Contact

1. Name and Title of Application Contact:
   Scott Quaas, Environmental Manager

2. Application Contact Mailing Address:

   Organization/Firm: **Tarmac America, Inc.**
   Street Address: **455 Fairway Drive**
   City: **Deerfield Beach** State: **FL** Zip Code: **33441**

3. Application Contact Telephone Numbers:

   Telephone: **(954) 425-4165** Fax: **(954) 480-9352**

Application Comment

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates:
   Zone: **17** East (km): **562.8** North (km): **2861.7**

2. Facility Latitude/Longitude:
   Latitude (DD/MM/SS): **25 / 52 / 30** Longitude: (DD/MM/SS): **80 / 22 / 30**

3. Governmental Facility Code:	4. Facility Status Code:	5. Facility Major Group SIC Code:	6. Facility SIC(s):
0	**A**	**32**	**3241, 3271, 3273**

7. Facility Comment (limit to 500 characters):

Facility Contact

1. Name and Title of Facility Contact:
   Scott Quaas, Environmental Manager

2. Facility Contact Mailing Address:
   Organization/Firm: **Tarmac America, Inc.**
   Street Address: **455 Fairway Drive**
   City: **Deerfield Beach** State: **FL** Zip Code: **33441**

3. Facility Contact Telephone Numbers:
   Telephone: **(954) 425-4165** Fax: **(954) 480-9352**

Facility Regulatory Classifications

1. Small Business Stationary Source? [ ] Yes [x] No [ ] Unknown
2. Title V Source? [x] Yes [ ] No
3. Synthetic Non-Title V Source? [ ] Yes [x] No
4. Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)? [x] Yes [ ] No
5. Synthetic Minor Source of Pollutants Other than HAPs? [ ] Yes [x] No
6. Major Source of Hazardous Air Pollutants (HAPs)? [x] Yes [ ] No
7. Synthetic Minor Source of HAPs? [ ] Yes [x] No
8. One or More Emissions Units Subject to NSPS? [x] Yes [ ] No
9. One or More Emissions Units Subject to NESHAP? [ ] Yes [x] No
10. Title V Source by EPA Designation? [ ] Yes [x] No
11. Facility Regulatory Classifications Comment (limit to 200 characters):

B. FACILITY REGULATIONS

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-210.700(1) Excess Emissions
62-210.700(4) Excess Emissions
62-210.700(5) Excess Emissions
62-210.700(6) Excess Emissions
62-296.320(4) General Visible Emissions Std.
62-296.320(4)(c) - Unconfined Emissions
Dade County - See 24-17

C. FACILITY POLLUTANTS

Facility Pollutant Information

1. Pollutant Emitted		2. Pollutant Classification
PM	Particulate Matter - Total	A
NOX	Nitrogen Oxides	A
SO2	Sulfur Dioxide	A
CO	Carbon Monoxide	A
PM10	Particulate Matter - PM10	A
H106	Hydrochloric acid	A

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Detail Information:

1. Pollutant Emitted:		
2. Requested Emissions Cap:	(lb/hr)	(tons/yr)
3. Basis for Emissions Cap Code:		
4. Facility Pollutant Comment (limit to 400 characters):		

Facility Pollutant Detail Information:

1. Pollutant Emitted:		
2. Requested Emissions Cap:	(lb/hr)	(tons/yr)
3. Basis for Emissions Cap Code:		
4. Facility Pollutant Comment (limit to 400 characters):		

E. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements for All Applications

1. Area Map Showing Facility Location:
   [X] Attached, Document ID: TA-FI-E1
   [ ] Not Applicable [ ] Waiver Requested

2. Facility Plot Plan:
   [X] Attached, Document ID: TA-FI-E2
   [ ] Not Applicable [ ] Waiver Requested

3. Process Flow Diagram(s):
   [X] Attached, Document ID(s): TA-FI-E3
   [ ] Not Applicable [ ] Waiver Requested

4. Precautions to Prevent Emissions of Unconfined Particulate Matter:
   [X] Attached, Document ID: Attachment A
   [ ] Not Applicable [ ] Waiver Requested

5. Fugitive Emissions Identification:
   [X] Attached, Document ID: Attachment A
   [ ] Not Applicable [ ] Waiver Requested

6. Supplemental Information for Construction Permit Application:
   [X] Attached, Document ID: Attachment A
   [ ] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

7. List of Proposed Exempt Activities:
   [ ] Attached, Document ID: _____
   [ ] Not Applicable

8. List of Equipment/Activities Regulated under Title VI:
   [ ] Attached, Document ID: _____
   [ ] Equipment/Activities On site but Not Required to be Individually Listed
   [ ] Not Applicable

9. Alternative Methods of Operation:
   [ ] Attached, Document ID: _____
   [ ] Not Applicable

10. Alternative Modes of Operation (Emissions Trading):
    [ ] Attached, Document ID: _____
    [ ] Not Applicable

11. Identification of Additional Applicable Requirements:
[ ] Attached, Document ID: _____
[ ] Not Applicable

12. Compliance Assurance Monitoring Plan:
[ ] Attached, Document ID: _____
[ ] Not Applicable

13. Risk Management Plan Verification:

[ ] Plan Submitted to Implementing Agency - Verification Attached
Document ID: _____

[ ] Plan to be Submitted to Implementing Agency by Required Date

[ ] Not Applicable

14. Compliance Report and Plan
[ ] Attached, Document ID: _____
[ ] Not Applicable

15. Compliance Statement (Hard-copy Required)
[ ] Attached, Document ID: _____
[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

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

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

2. Single Process, Group of Processes, or Fugitive Only? 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).

[X] 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.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **Coal Handling System** Coal mill System Coal mill 5 Fuel Bin Coal Handling & Storage		
2. Emissions Unit Identification Number: [X] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code: C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: 32
6. Emissions Unit Comment (limit to 500 characters):		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters):

Baghouses (3)

2. Control Device or Method Code: **18**

B.

1. Description (limit to 200 characters):

Process Enclosure

2. Control Device or Method Code: **54**

C.

1. Description (limit to 200 characters):

2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer:	Model Number:
4. Generator Nameplate Rating:	MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:			mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr		tons/day
3. Maximum Process or Throughput Rate:		**176,080**	**TPY**
4. Maximum Production Rate:			
5. Operating Capacity Comment (limit to 200 characters): **Max process rate reflects coal/petroleum coke throughput.**			

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:

24	hours/day		days/week
52	weeks/yr	**8,760**	hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

40 CFR 60.11(b) General NSPS Requirements
40 CFR 60.11(c) General NSPS Requirements
40 CFR 60.11(d) General NSPS Requirements
40 CFR 60.12 General NSPS Requirements
40 CFR 60.19 General NSPS Requirements
40 CFR 60.252(c) Subpart Y
40 CFR 60.254(a)
40 CFR 60.254(b)(2)
40 CFR 60.7 General NSPS Requirements
40 CFR 60.8 General NSPS Requirements
62-296.320(4)(a) Process Weight Table

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **15, 16, 24**	
2. Emission Point Type Code: [ ] 1 [ ] 2 [x] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **Refer to Attachment TA-E01-E3**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [x] V [ ] W	
6. Stack Height:	**370** feet
7. Exit Diameter:	**14** feet
8. Exit Temperature:	**176** °F

9. Actual Volumetric Flow Rate:	**25,700**	acfm
10. Percent Water Vapor:		%
11. Maximum Dry Standard Flow Rate:		dscfm
12. Nonstack Emission Point Height:		feet

13. Emission Point UTM Coordinates:

Zone: East (km): North (km):

14. Emission Point Comment (limit to 200 characters):

Refer to Attachment TA-E01-E3 for point specific data. Data above reflect coal mill exit gas emitted through common stack.

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Mineral Products; Bulk Material Stockpiles: Coal**	
2. Source Classification Code (SCC): **3-05-103-03**	
3. SCC Units: **Tons Processed**	
4. Maximum Hourly Rate: **23**	5. Maximum Annual Rate: **176,080**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): **Average hourly rate is 22.72 TPH and relates to coal/petcoke consumption by plant.**	

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Mineral Products; Bulk Material Conveyors; Coal**	
2. Source Classification Code (SCC): **3-05-101-03**	
3. SCC Units: **Tons Processed**	
4. Maximum Hourly Rate: **23**	5. Maximum Annual Rate: **176,080**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): **Average hourly rate is 22.72 TPH and relates to coal/petcoke consumption by plant.**	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	018		EL
PM10	018		NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **27.5** lb/hour **37.6** tons/year
4. Synthetically Limited? [**x**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [**x**] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.01 gr/acf** Reference: **Manufacturer Info.**
7. Emissions Method Code: [ ] 0 [ ] 1 [**x**] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **31,700 acfm x 0.01 gr/acf x 60 min/hr x 1 lb/7000 gr = 2.72 lb/hr; 2.72 lb/hr x 8760 hr/yr x 1 ton/2000 lb = 11.9 TPY; Fugitive Emissions are 24.75 lb/hr and 25.7 TPY based on 2080 hours per year; see Appendix B.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **Refer to Attachment TA-E01-H9.**

Emissions Unit Information Section 1 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:	**OTHER**
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	**0.01 gr/acf**
4. Equivalent Allowable Emissions:	**2.7** lb/hour **11.9** tons/year
5. Method of Compliance (limit to 60 characters):	**EPA Method 9 Test**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):	

B.

1. Basis for Allowable Emissions Code:	**RULE**
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	**3.59 p^0.62**
4. Equivalent Allowable Emissions:	**2.72** lb/hour **11.9** tons/year
5. Method of Compliance (limit to 60 characters):	**EPA Method 9 test**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):	**Process weight table applies by Rule 62-296.320(4)(a) to grinding processes only.**

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM10**

2. Total Percent Efficiency of Control: %

3. Potential Emissions: **10.3** lb/hour **37.6** tons/year

4. Synthetically Limited? [**x**] Yes [ ] No

5. Range of Estimated Fugitive/Other Emissions:

   [**x**] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr

6. Emission Factor: **0.01 gr/acf**

   Reference: **Manufacturer Info.**

7. Emissions Method Code:

   [ ] 0 [ ] 1 [**x**] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   31,700 acfm x 0.01 gr/acf x 60 min/hr x 1 lb/7000 gr = 2.72 lb/hr; 2.72 lb/hr x 8760 hr/yr x 1 ton/2000 lb = 11.9 TPY; Fugitive emissions are 10.33 lb/hr and 9.0 TPY based on 2080 hr/yr; see Appendix B

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   Refer to Attachment TA-E01-H9.

Emissions Unit Information Section 1 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 1

1.	Visible Emissions Subtype: **VE20**
2.	Basis for Allowable Opacity: [x] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: **20** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: **EPA Method 9**
5.	Visible Emissions Comment (limit to 200 characters): **Coal grinding baghouse subject to 40 CFR 60, Subpart Y.**

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

1.	Visible Emissions Subtype:
2.	Basis for Allowable Opacity: [ ] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance:
5.	Visible Emissions Comment (limit to 200 characters):

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [X] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:

PM	[x] C	[ ] E	[ ] Unknown
SO_2	[ ] C	[ ] E	[ ] Unknown
NO_2	[ ] C	[ ] E	[ ] Unknown

4. Baseline Emissions:

PM	lb/hour	tons/year
SO_2	lb/hour	tons/year
NO_2		tons/year

5. PSD Comment (limit to 200 characters):

Emission unit does not emit SO2 or NOx.

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram	
	[X] Attached, Document ID: TA-E01-L1	
	[ ] Not Applicable	[ ] Waiver Requested
2.	Fuel Analysis or Specification	
	[ ] Attached, Document ID: _____	
	[X] Not Applicable	[ ] Waiver Requested
3.	Detailed Description of Control Equipment	
	[X] Attached, Document ID: TA-E01-L3	
	[ ] Not Applicable	[ ] Waiver Requested
4.	Description of Stack Sampling Facilities	
	[ ] Attached, Document ID: _____	
	[X] Not Applicable	[ ] Waiver Requested
5.	Compliance Test Report	
	[ ] Attached, Document ID: _____	[X] Not Applicable
	[ ] Previously Submitted, Date: _____	
6.	Procedures for Startup and Shutdown	
	[ ] Attached, Document ID: _____	[X] Not Applicable
7.	Operation and Maintenance Plan	
	[ ] Attached, Document ID: _____	[X] Not Applicable
8.	Supplemental Information for Construction Permit Application	
	[X] Attached, Document ID: Attachment A	[ ] Not Applicable
9.	Other Information Required by Rule or Statute	
	[ ] Attached, Document ID: _____	[X] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID: _____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID: _____ [ ] Not Applicable

12. Identification of Additional Applicable Requirements

[ ] Attached, Document ID: _____ [ ] Not Applicable

13. Compliance Assurance Monitoring Plan

[ ] Attached, Document ID: _____ [ ] Not Applicable

14. Acid Rain Permit Application (Hard Copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID: _____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID: _____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID: _____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID: _____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

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

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

2. Single Process, Group of Processes, or Fugitive Only? 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.

[X] 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.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Raw Mill and Pyroprocessing Unit Raw mill, Dry Process Kiln with Preheater (PH) Precalciner (PC) and Clinker Cooler; Main Stack? Kiln System

2. Emissions Unit Identification Number: [x] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: C	4. Acid Rain Unit? [ ] Yes [x] No	5. Emissions Unit Major Group SIC Code: 32

6. Emissions Unit Comment (limit to 500 characters):
Pyroprocessing consists of the Preheater/Calciner, Kiln, and Cooler.

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters):

   Baghouse

2. Control Device or Method Code: **16**

B.

1. Description (limit to 200 characters):

2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):

2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer:	Model Number:
4. Generator Nameplate Rating:	MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		568	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr		tons/day
3. Maximum Process or Throughput Rate:		266	TPH
4. Maximum Production Rate:	160	TPH	
5. Operating Capacity Comment (limit to 200 characters): **Max Throughput Rate = 266.4 (rounded to 266). Production rate relates to clinker production. Process rate relates to dry kiln feed.**			

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:			
	24 hours/day		days/week
	52 weeks/yr	8,760	hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

40CFR60.11 General NSPS Requirements
40CFR60.12 General NSPS Requirements
40CFR60.13(a) General NSPS Requirements
40CFR60.13(b) General NSPS Requirements
40CFR60.13(d)(2) General NSPS Requirements
40CFR60.13(e)(1) General NSPS Requirements
40CFR60.13(f) General NSPS Requirements
40CFR60.13(h) General NSPS Requirements
40CFR60.19 General NSPS Requirements
40CFR60.62(a) NSPS Requirement for Cement Kilns
40CFR60.62(b) NSPS Requirements for Cement Plant Coolers
40CFR60.63(a) NSPS Requirement for Cement Kilns
40CFR60.63(b) NSPS Requirement for Cement Kilns
40CFR60.63(d) NSPS Requirement for Cement Kilns
40CFR60.64 NSPS Requirement for Cement Kilns
40CFR60.65(a) NSPS Requirement for Cement Kilns
40CFR60.65(b) NSPS Requirements for Cement Plant Coolers
40CFR60.65(c) NSPS Requirements for Cement Plant Coolers
40CFR60.7 General NSPS Requirements
40CFR60.8 General NSPS Requirements
62-296.320(4)(a) Process Weight Table
62-296.407 Portland Cement Plants
62-296.507(4)(b)8 RACT Requirements for Major VOC and NOx Emitting Facilities

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram:	09, 10, 11
2. Emission Point Type Code: [x] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [x] V [ ] W	
6. Stack Height:	370 feet
7. Exit Diameter:	14 feet
8. Exit Temperature:	181 °F

9. Actual Volumetric Flow Rate:	**359,200** acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):	
14. Emission Point Comment (limit to 200 characters): **Stack data representative of clinker production operation with raw mill operating. With raw mill down, parameters are 446,200 acfm @ 500 deg. F.**	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 8

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Mineral Products: Cement Manufacturing: Dry Process: Raw Material Grinding and Drying**	
2. Source Classification Code (SCC): **3-05-006-13**	
3. SCC Units: **Raw Feed Produced**	
4. Maximum Hourly Rate: **316**	5. Maximum Annual Rate: **2,445,556**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): **Segment refers to raw feed produced from raw mill.**	

Segment Description and Rate: Segment 2 of 8

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Mineral Products: Cement manufacturing: Dry process: Kilns**	
2. Source Classification Code (SCC): **3-05-006-06**	
3. SCC Units: **Tons Cement Produced**	
4. Maximum Hourly Rate: **160**	5. Maximum Annual Rate: **1,240,000**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): **Segment refers to clinker production.**	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 3 of 8

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Mineral Products; Cement manufacturing: dry Process: Clinker Cooler**
2. Source Classification Code (SCC): **3-05-006-14**
3. SCC Units: **Tons Cement produced**

4. Maximum Hourly Rate:	5. Maximum Annual Rate:
160	**1,240,000**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	

10. Segment Comment (limit to 200 characters): **Segment refers to clinker through clinker cooler.**

Segment Description and Rate: Segment 4 of 8

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):
In-process fuel use; Industrial Processes; Cement Kiln/Dryer (Bituminous Coal)

2. Source Classification Code (SCC): **3-90-002-01**

3. SCC Units: **Tons Burned**

4. Maximum Hourly Rate:	5. Maximum Annual Rate:
23	**176,080**

6. Estimated Annual Activity Factor:

7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
3.5	**20**

9. Million Btu per SCC Unit: **25**

10. Segment Comment (limit to 200 characters):
Max hourly rate = 22.72 (rounded to 23). Maximum annual rate based on 1,240,000 TPY clinker.

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 5 of 8

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **In-process Fuel use; Industrial processes; General Coke**	
2. Source Classification Code (SCC): **3-90-008-99**	
3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **20**	5. Maximum Annual Rate: **157,214**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: **5.5**	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: **28**	
10. Segment Comment (limit to 200 characters): **Max hourly rate 20.29 TPH (rounded to 20).**	

Segment Description and Rate: Segment 6 of 8

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **In-process fuel use; Industrial processes; Cement Kiln/Dryer No.2 Fuel Oil with used oil blend**	
2. Source Classification Code (SCC): **3-90-005-02**	
3. SCC Units: **1,000 Gallons Burned**	
4. Maximum Hourly Rate: **4.092**	5. Maximum Annual Rate: **31,715**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: **139**	
10. Segment Comment (limit to 200 characters): **Million Btu per SCC Unit = 138.8 (rounded to 139).**	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 7 of 8

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **In-process fuel use; Industrial processes; Cement Kiln/Dryer No.6 Fuel Oil with used oil blend**
2. Source Classification Code (SCC): **39000402**
3. SCC Units: **1,000 Gallons Burned**

4. Maximum Hourly Rate:	5. Maximum Annual Rate:
3.737	**28,961**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:

9. Million Btu per SCC Unit: **152**
10. Segment Comment (limit to 200 characters):

Segment Description and Rate: Segment 8 of 8

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **In-process fuel use; Industrial processes; Cement Kiln/Dryer; natural gas**	
2. Source Classification Code (SCC): **39000602**	
3. SCC Units: **Million Cubic Feet Burned**	
4. Maximum Hourly Rate: **0.568**	5. Maximum Annual Rate: **4,402**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: **1,000**	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
SO2			NS
PM	016		EL
PM10	016		NS
H106			NS
NOx			NS
CO			NS
VOC			NS
SAM			NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **SO2**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **208** lb/hour **806** tons/year
4. Synthetically Limited? [**x**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **1.3 lb/ton clinker** Reference: **Vendor Information**
7. Emissions Method Code: [ ] 0 [ ] 1 [**x**] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **160 tons clinker/hr x 1.3 lb/ton clinker = 208 lb/hr; 1,240,000 tons clinker/yr x 1.3 lb/ton clinker x 1 ton/2000 lb = 806 TPY**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

Emissions Unit Information Section 2 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **52.8** lb/hour **204.6** tons/year
4. Synthetically Limited? [**X**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.33 lb/ton Clinker** Reference: **Vendor Information**
7. Emissions Method Code: [**X**] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **0.33 lb PM/ton clinker x 160 tons clinker/hr = 52.8 lb/hr; 0.33 lb PM/ton clinker x 1,240,000 tons clinker/year x 1 ton/2000 lb = 204.6 TPY**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **Emission Factor Units are lb/ton clinker produced.**

Emissions Unit Information Section 2 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.33 lb/ton clinker**
4. Equivalent Allowable Emissions: **52.8** lb/hour **204.6** tons/year
5. Method of Compliance (limit to 60 characters): **Annual Method 5**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Emission limit based on vendor design information. Represents emissions from common stack.**

B.

1. Basis for Allowable Emissions Code: **RULE**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.3 lb/ton feed-dry**
4. Equivalent Allowable Emissions: **52.8** lb/hour **204.6** tons/year
5. Method of Compliance (limit to 60 characters): **Annual EPA Method 5**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **NSPS 40 CFR 60.62(b) for cooler only based on feed to kiln. Equivalent allowable emissions are emissions out the common stack.**

Emissions Unit Information Section 2 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **RULE**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.1 lb/ton feed-dry**	
4. Equivalent Allowable Emissions:	**52.8** lb/hour **204.6** tons/year
5. Method of Compliance (limit to 60 characters): **Annual EPA Method 5**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Emission limit is NSPS (40CFR60.62) for kiln only. Equivalent allowable emissions are emissions out common stack.**	

B.

1. Basis for Allowable Emissions Code:	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions:	lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM10**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **44.9** lb/hour **173.9** tons/year
4. Synthetically Limited? [**X**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **85 % of PM** Reference: **AP-42**
7. Emissions Method Code: [ ] 0 [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **85% of PM. 52.8 lb/hr x 0.85 = 44.9 lb/hr. 204.6 TPY x 0.85 = 173.9 TPY**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

Emissions Unit Information Section 2 of 5
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **H106**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **7.84** lb/hour **30.38** tons/year
4. Synthetically Limited? [**x**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.049 lb/ton clinker** Reference: **AP-42**
7. Emissions Method Code: [ ] 0 [ ] 1 [**x**] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **0.049 lb/ton clinker x 160 TPH clinker = 7.84 TPY; 0.049 lb/ton x 1,240,000 TPY clinker x 1 ton/2000 lb = 30.38 TPY**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

Emissions Unit Information Section 2 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **NOx**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **504** lb/hour **1,953** tons/year
4. Synthetically Limited? [**x**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **3.15 lb/ton clinker** Reference: **Vendor Information**
7. Emissions Method Code: [ ] 0 [ ] 1 [**x**] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **3.15 lb/ton clinker x 160 tons clinker/hr = 504 lb/hr; 3.15 lb/ton clinker x 1,240,000 tons clinker/yr x 1 ton/2000 lb = 1,953 TPY**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

$$\frac{1054\ lb}{hr} \times \frac{228\ MMBTU}{hr} = 2.21\ lb/MMBTU$$

Emissions Unit Information Section 2 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **RULE**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **lb/MMBtu**	
4. Equivalent Allowable Emissions:	**504** lb/hour **1,953** tons/year
5. Method of Compliance (limit to 60 characters): **Annual EPA Method 7**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Emission limit is 62-296.570(4)(b)8. Equivalent allowable emissions are emissions out of common stack.**	

B.

1. Basis for Allowable Emissions Code:	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions:	lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **CO**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **376** lb/hour **1,457** tons/year
4. Synthetically Limited? [**X**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **2.35 lb/ton clinker** Reference: **Vendor Information**
7. Emissions Method Code: [ ] 0 [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **2.35 lb/ton clinker x 160 TPH = 376 lb/hr; 2.35 lb/ton clinker x 1,240,000 TPY _ 2,000 lb/ton = 1,457.0 TPY**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

Emissions Unit Information Section 2 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **VOC**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **19.2** lb/hour **74.4** tons/year
4. Synthetically Limited? [**X**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.12 lb/ton clinker** Reference: **Vendor Information**
7. Emissions Method Code: [ ] 0 [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **0.12 lb/ton clinker x 160 TPH = 19.2 lb/hr; 0.12 lb/ton clinker x 1,240,000 TPY _ 2000 lb/ton = 74.4 TPY**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

Emissions Unit Information Section 2 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **SAM**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **2.24** lb/hour **8.68** tons/year
4. Synthetically Limited? [**X**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.014 lb/ton clinker** Reference: **Vendor Information**
7. Emissions Method Code: [ ] 0 [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **0.014 lb/ton clinker x 160 TPH = 2.24 lb/hr; 0.014 lb/ton clinker x 1,240,000 TPY = 8.68 TPY**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

Emissions Unit Information Section 2 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 2

1.	Visible Emissions Subtype: **VE20**
2.	Basis for Allowable Opacity: [X] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: **20** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: **EPA Method 9**
5.	Visible Emissions Comment (limit to 200 characters): **Rule 62-296.320(4)(a) for kilns and coolers.**

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

1.	Visible Emissions Subtype: **VE10**
2.	Basis for Allowable Opacity: [X] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: **10** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: **COMS**
5.	Visible Emissions Comment (limit to 200 characters): **40 CFR 60.62(b)(2) for cooler.**

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code: VE	2. Pollutant(s):
3. CMS Requirement: [X] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters): **40 CFR 60, Subpart F, Vendor not yet selected.**	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [x] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[x] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[x] C	[ ] E	[ ] Unknown
	SO_2	[x] C	[ ] E	[ ] Unknown
	NO_2	[x] C	[ ] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	lb/hour		tons/year
	NO_2			tons/year
5.	PSD Comment (limit to 200 characters):			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram	
	[X] Attached, Document ID: TA-E02-L1	
	[ ] Not Applicable	[ ] Waiver Requested
2.	Fuel Analysis or Specification	
	[X] Attached, Document ID: TA-E02-L2	
	[ ] Not Applicable	[ ] Waiver Requested
3.	Detailed Description of Control Equipment	
	[X] Attached, Document ID: TA-E02-L3	
	[ ] Not Applicable	[ ] Waiver Requested
4.	Description of Stack Sampling Facilities	
	[ ] Attached, Document ID: _____	
	[X] Not Applicable	[ ] Waiver Requested
5.	Compliance Test Report	
	[ ] Attached, Document ID: _____	[X] Not Applicable
	[ ] Previously Submitted, Date: _____	
6.	Procedures for Startup and Shutdown	
	[ ] Attached, Document ID: _____	[X] Not Applicable
7.	Operation and Maintenance Plan	
	[ ] Attached, Document ID: _____	[X] Not Applicable
8.	Supplemental Information for Construction Permit Application	
	[X] Attached, Document ID: Attachment A	[ ] Not Applicable
9.	Other Information Required by Rule or Statute	
	[ ] Attached, Document ID: _____	[X] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID: _____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID: _____ [ ] Not Applicable

12. Identification of Additional Applicable Requirements

[ ] Attached, Document ID: _____ [ ] Not Applicable

13. Compliance Assurance Monitoring Plan

[ ] Attached, Document ID: _____ [ ] Not Applicable

14. Acid Rain Permit Application (Hard Copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID: _____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID: _____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID: _____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID: _____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

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

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

2. Single Process, Group of Processes, or Fugitive Only? 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).

[X] 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.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **Finish Mill #1 - #5** Clinker Cement Handling & Storage		
2. Emissions Unit Identification Number: [x] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code: C	4. Acid Rain Unit? [ ] Yes [x] No	5. Emissions Unit Major Group SIC Code: 32
6. Emissions Unit Comment (limit to 500 characters): **Emission unit consists of Finish Mill Nos. 1-4 and the proposed Finish Mill No. 5. The original Arms ID Nos. for the Finish Mill Nos. 1-4 are 010, 011, 012, and 013, respectively.**		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters):

   Baghouses (17)

2. Control Device or Method Code: **18**

B.

1. Description (limit to 200 characters):

2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):

2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer:	Model Number:
4. Generator Nameplate Rating:	MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	°F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:			mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr		tons/day
3. Maximum Process or Throughput Rate:		379	TPH
4. Maximum Production Rate:	1,614,400	TPY	
5. Operating Capacity Comment (limit to 200 characters): **Max Process/Throughput Rate = 378.5 TPH (rounded to 379 TPH). Refer to Attachment TA-E03-C5 for individual capacities.**			

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:			
24	hours/day		days/week
52	weeks/yr	8,760	hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

Finish Mill #4 Only
40CFR60.11(b) General NSPS Requirements
40CFR60.11(c) General NSPS Requirements
40CFR60.11(d) General NSPS Requirements
40CFR60.12 General NSPS Requirements
40CFR60.19 General NSPS Requirements
40CFR60.62(c) NSPS Subpart F
40CFR60.7 General NSPS Requirements
40CFR60.8 General NSPS Requirements
Finish Mills #1 - #3: 62-296.320(4)(a) Process Weight Standard

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **25**	
2. Emission Point Type Code: [ ] 1 [ ] 2 [X] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **17 baghouses. Refer to Attachment TA-E03-E3.**	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [ ] V [X] W	
6. Stack Height:	**110** feet
7. Exit Diameter:	**2** feet
8. Exit Temperature:	**110** °F

9. Actual Volumetric Flow Rate:	**30,000** acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):	
14. Emission Point Comment (limit to 200 characters): **Stack data representative of baghouse F-430. Refer to Attachment TA-E03-E3 for point specific data. Exit temperature may range from 100-200 deg. F.**	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):

Mineral Products; Cement Manufacturing; Dry Process; Clinker Grinding

2. Source Classification Code (SCC):

3-05-006-17

3. SCC Units:

Tons Cement Produced

4. Maximum Hourly Rate:	5. Maximum Annual Rate:
378.5	**1,614,400**

6. Estimated Annual Activity Factor:

7. Maximum Percent Sulfur:	8. Maximum Percent Ash:

9. Million Btu per SCC Unit:

10. Segment Comment (limit to 200 characters):

Refer to Attachment TA-E03-C5 for specific rates for each mill. Max annual rate based on cement production equivalent to 1,240,000 TPY clinker.

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	018		EL
PM10	018		EL

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **19.1** lb/hour **83.7** tons/year
4. Synthetically Limited? [**x**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.01 gr/acf** Reference: **Vendor Information**
7. Emissions Method Code: [**x**] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Refer to Attachment TA-E03-H8**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

Emissions Unit Information Section 3 of 5
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.01 gr/acf**	
4. Equivalent Allowable Emissions:	**7.64** lb/hour **33.5** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 9**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **For Finish Mills #1 - #3. Refer to Attachment TA-E03-H9.**	

B.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.01 gr/acf**	
4. Equivalent Allowable Emissions:	**5.75** lb/hour **25.14** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 9**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Limit applies to Finish Mill No. 4 only per PSD-FL-230 and 0250020-001-AC.**	

Emissions Unit Information Section 3 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code:	
OTHER	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
0.01 gr/acf	
4. Equivalent Allowable Emissions:	**5.75** lb/hour **83.7** tons/year
5. Method of Compliance (limit to 60 characters):	
EPA Method 9	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):	
Proposed limit for Finish Mill No. 5.	

B.

1. Basis for Allowable Emissions Code:	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions:	lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM10**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **19.1** lb/hour **83.7** tons/year
4. Synthetically Limited? [ ] Yes [**X**] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.01 gr/acf** Reference: **Vendor Information**
7. Emissions Method Code: [ ] 0 [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Refer to Attachment TA-E03-H8**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

Emissions Unit Information Section 3 of 5
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.01 gr/acf**	
4. Equivalent Allowable Emissions:	**7.64** lb/hour **33.5** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 9**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **For Finish Mills #1 - #3. Refer to Attachment TA-E03-H9.**	

B.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.01 gr/acf**	
4. Equivalent Allowable Emissions:	**5.75** lb/hour **25.14** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 9**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Limit applies to Finish Mill No.4 only per PSD-FL-230 and 0250020-001-AC.**	

Emissions Unit Information Section 3 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.01 gr/acf**	
4. Equivalent Allowable Emissions:	**5.75** lb/hour **25.14** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 9**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Proposed limit for Finish Mill No. 5.**	

B.

1. Basis for Allowable Emissions Code:	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions:	lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):	

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 2

1.	Visible Emissions Subtype: **VE05**
2.	Basis for Allowable Opacity: [ ] Rule [X] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: **Annual VE Test EPA Method 9**
5.	Visible Emissions Comment (limit to 200 characters): **BACT determination from PSD-FL-236 for Finish Mill No. 4 only. BACT limit is more limiting than NSPS standard (40 CFR 60.62(c)) of 10%.**

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

1.	Visible Emissions Subtype: **VE10**
2.	Basis for Allowable Opacity: [X] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: **10** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: **Annual VE test EPA Method 9**
5.	Visible Emissions Comment (limit to 200 characters): **40 CFR 60.62(c) NSPS. Applicable to Finish Mill No. 4 and No. 5.**

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [X] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[x] C	[ ] E	[ ] Unknown
	SO_2	[ ] C	[ ] E	[ ] Unknown
	NO_2	[ ] C	[ ] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	lb/hour		tons/year
	NO_2			tons/year
5.	PSD Comment (limit to 200 characters):			
	Emission unit does not emit NOx or SO2.			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram	
	[X] Attached, Document ID: TA-E03-L1	
	[ ] Not Applicable	[ ] Waiver Requested
2.	Fuel Analysis or Specification	
	[ ] Attached, Document ID: _____	
	[X] Not Applicable	[ ] Waiver Requested
3.	Detailed Description of Control Equipment	
	[X] Attached, Document ID: TA-E03-L3	
	[ ] Not Applicable	[ ] Waiver Requested
4.	Description of Stack Sampling Facilities	
	[ ] Attached, Document ID: _____	
	[X] Not Applicable	[ ] Waiver Requested
5.	Compliance Test Report	
	[ ] Attached, Document ID: _____	[X] Not Applicable
	[ ] Previously Submitted, Date: _____	
6.	Procedures for Startup and Shutdown	
	[ ] Attached, Document ID: _____	[X] Not Applicable
7.	Operation and Maintenance Plan	
	[ ] Attached, Document ID: _____	[X] Not Applicable
8.	Supplemental Information for Construction Permit Application	
	[X] Attached, Document ID: Attachment A	[ ] Not Applicable
9.	Other Information Required by Rule or Statute	
	[ ] Attached, Document ID: _____	[X] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10.	Alternative Methods of Operation [ ] Attached, Document ID: _____ [ ] Not Applicable
11.	Alternative Modes of Operation (Emissions Trading) [ ] Attached, Document ID: _____ [ ] Not Applicable
12.	Identification of Additional Applicable Requirements [ ] Attached, Document ID: _____ [ ] Not Applicable
13.	Compliance Assurance Monitoring Plan [ ] Attached, Document ID: _____ [ ] Not Applicable
14.	Acid Rain Permit Application (Hard Copy Required) [ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ [ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ [ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ [ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ [ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

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

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

2. Single Process, Group of Processes, or Fugitive Only? 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.

[X] 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.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
   Clinker Handling and Storage
   See Finish Mill

2. Emissions Unit Identification Number: [X] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: A	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: 32

6. Emissions Unit Comment (limit to 500 characters):
   Emission unit consists of Clinker Handling and Storage systems for the Pyroprocessing Operation and Clinker Silos 1, 2, 4, 5, 11, 12, 18-28. Original ARMS ID Nos. are 08 and 09.

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters):

Baghouse (7)

2. Control Device or Method Code: **18**

B.

1. Description (limit to 200 characters):

2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):

2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer:	Model Number:
4. Generator Nameplate Rating:	MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:			mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr		tons/day
3. Maximum Process or Throughput Rate:		285	TPH
4. Maximum Production Rate:	1,540,000	TPY	
5. Operating Capacity Comment (limit to 200 characters): **Refer to Attachment TA-E04-C5.**			

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:			
	24 hours/day		days/week
	52 weeks/yr	8,760	hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

40CFR60.11(b) General NSPS Requirements
40CFR60.11(c) General NSPS Requirements
40CFR60.11(d) General NSPS Requirements
40CFR60.12 General NSPS Requirements
40CFR60.19 General NSPS Requirements
40CFR60.62(c) Portland Cement Plant NSPS Requirement for non-kiln, non-cooler sources
40CFR60.7 General NSPS Requirements
40CFR60.8 General NSPS Requirements
62-296.320(4)(b) Visible Emissions

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **23, 24**
2. Emission Point Type Code: [ ] 1 [ ] 2 [x] 3 [ ] 4
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): **Refer to Attachment TA-E04-E3**
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:
5. Discharge Type Code: [ ] D [ ] F [x] H [ ] P [ ] R [ ] V [ ] W
6. Stack Height: **160** feet
7. Exit Diameter: feet
8. Exit Temperature: **77** °F

9. Actual Volumetric Flow Rate:	**5,000** acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):	
14. Emission Point Comment (limit to 200 characters): **Data presented above reflects K-347 baghouse. Refer to Attachment TA-E04-E3 for additional data.**	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):

Mineral Products; Cement Manufacturing: Dry Process; Clinker Transfer

2. Source Classification Code (SCC):

3-05-006-16

3. SCC Units:

Tons Cement Produced

4. Maximum Hourly Rate:	5. Maximum Annual Rate:
285	**1,540,000**

6. Estimated Annual Activity Factor:

7. Maximum Percent Sulfur:	8. Maximum Percent Ash:

9. Million Btu per SCC Unit:

10. Segment Comment (limit to 200 characters):

Note maximum rates reflect transfer of clinker plus slag, not cement. Refer to Attachment TA-E04-C5.

Segment Description and Rate: Segment 2 of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Mineral Products; Cement Manufacturing: Dry Process; Clinker Storage Silos**
2. Source Classification Code (SCC):
3. SCC Units: **Tons Cement Produced**

4. Maximum Hourly Rate:	5. Maximum Annual Rate:
285	**1,540,000**

6. Estimated Annual Activity Factor:

7. Maximum Percent Sulfur:	8. Maximum Percent Ash:

9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters): **Rates refers to tons of clinker produced plus slag, not cement. Refere to Attachment TA-E04-C5.**

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	018		EL
PM10	018		EL

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **1.07** lb/hour **4.7** tons/year
4. Synthetically Limited? [ ] Yes [**X**] No
5. Range of Estimated Fugitive/Other Emissions: [**X**] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.01 gr/acf** Reference: **Manufacturer Design**
7. Emissions Method Code: [**X**] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **12,500 dscfm x 0.1 gr/dscf x 60 min/hr x 1 lb/7000 gr = 1.07 lb/hr; 1.07 lb/hr x 8,760 hr/yr = 4.7 TPY**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

Emissions Unit Information Section 4 of 5
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.01 gr/dscf**
4. Equivalent Allowable Emissions: **0.99** lb/hour **4.3** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 9 and Method 5**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Permit limit based on permit PSD-FL-236 for baghouses: K347, K447, and K633**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM10**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **1.07** lb/hour **4.7** tons/year
4. Synthetically Limited? [ ] Yes [**x**] No
5. Range of Estimated Fugitive/Other Emissions: [**x**] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.01 gr/acf** Reference: **Manufacturer Design**
7. Emissions Method Code: [**x**] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **12,500 dscfm x 0.1 gr/dscf x 60 min/hr x 1 lb/7000 gr = 1.07 lb/hr; 1.07 lb/hr x 8760 hr/yr = 4.7 TPY**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

Emissions Unit Information Section 4 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.01 gr/dscf**	
4. Equivalent Allowable Emissions:	**0.99** lb/hour **4.3** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 9 and 5**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Permit limit based on PSD-FL-236 for baghouses: K347, K447, and K633**	

B.

1. Basis for Allowable Emissions Code:	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions:	lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):	

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 3

1.	Visible Emissions Subtype: **VE10**
2.	Basis for Allowable Opacity: [ ] Rule [X] Other
3.	Requested Allowable Opacity Normal Conditions: **10** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: **Annual VE Test with EPA Method 9**
5.	Visible Emissions Comment (limit to 200 characters): **VE limit of 10% only for conveyor transfer points associated with slag processing (baghouses K447 and K347), pursuant to PSD-FL-236.**

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

1.	Visible Emissions Subtype: **VE05**
2.	Basis for Allowable Opacity: [ ] Rule [X] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: **Annual VE test with EPA Method 9**
5.	Visible Emissions Comment (limit to 200 characters): **VE limit of 5% for clinker silos 21-23 and 26-28, controlled by baghouse K-633. Per permit PSD-FL-236.**

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 3 of 3

1.	Visible Emissions Subtype: **VE20**
2.	Basis for Allowable Opacity: [X] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: **20** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: **Annual VE test with EPA Method 9**
5.	Visible Emissions Comment (limit to 200 characters): **62-296.320(4)(b) General Visible Emissions Standard for baghouses K147, K247, K521 and K522.**

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

1.	Visible Emissions Subtype:
2.	Basis for Allowable Opacity: [ ] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance:
5.	Visible Emissions Comment (limit to 200 characters):

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [X] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[X] C	[ ] E	[ ] Unknown
	SO_2	[ ] C	[ ] E	[ ] Unknown
	NO_2	[ ] C	[ ] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	lb/hour		tons/year
	NO_2			tons/year
5.	PSD Comment (limit to 200 characters):			
	Emissions unit does not emit SO2 or NOx.			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram	
	[X] Attached, Document ID: TA-E04-L1	
	[ ] Not Applicable	[ ] Waiver Requested
2.	Fuel Analysis or Specification	
	[ ] Attached, Document ID: _____	
	[X] Not Applicable	[ ] Waiver Requested
3.	Detailed Description of Control Equipment	
	[X] Attached, Document ID: TA-E04-L3	
	[ ] Not Applicable	[ ] Waiver Requested
4.	Description of Stack Sampling Facilities	
	[ ] Attached, Document ID: _____	
	[X] Not Applicable	[ ] Waiver Requested
5.	Compliance Test Report	
	[ ] Attached, Document ID: _____	[X] Not Applicable
	[ ] Previously Submitted, Date: _____	
6.	Procedures for Startup and Shutdown	
	[ ] Attached, Document ID: _____	[X] Not Applicable
7.	Operation and Maintenance Plan	
	[ ] Attached, Document ID: _____	[X] Not Applicable
8.	Supplemental Information for Construction Permit Application	
	[X] Attached, Document ID: Attachment A	[ ] Not Applicable
9.	Other Information Required by Rule or Statute	
	[ ] Attached, Document ID: _____	[X] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID: _____ [ ] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID: _____ [ ] Not Applicable

12. Identification of Additional Applicable Requirements

[ ] Attached, Document ID: _____ [ ] Not Applicable

13. Compliance Assurance Monitoring Plan

[ ] Attached, Document ID: _____ [ ] Not Applicable

14. Acid Rain Permit Application (Hard Copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID: _____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID: _____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID: _____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID: _____

[ ] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

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

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

2. Single Process, Group of Processes, or Fugitive Only? 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.

[X] 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.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters):
Cement Stg Silos 1-9, Packhouse & Bulk Loadout Units 1-3
Storage System

2. Emissions Unit Identification Number: [X] No Corresponding ID [ ] Unknown

3. Emissions Unit Status Code: A	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: 32

6. Emissions Unit Comment (limit to 500 characters):
Original ARMS ID Nos. are 014, 016 and 015, for the Cement Silos, Packhouse and Bulk Loadout units Nos. 1, 2, 3, respectively.

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters):

   Baghouses (11)

2. Control Device or Method Code: **18**

B.

1. Description (limit to 200 characters):

2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):

2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer:	Model Number:
4. Generator Nameplate Rating:	MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:	**500**	**TPH**
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters): **Process rate is limited by permit AC13-21098. See Attachment TA-E05-C5 for max individual process rates.**		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:			
	24 hours/day		days/week
	52 weeks/yr	**8,760**	hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

For emission points constructed after 1971 only:
40CFR60.11(b) General NSPS Requirements
40CFR60.11(c) General NSPS Requirements
40CFR60.11(d) General NSPS Requirements
40CFR60.12 General NSPS Requirements
40CFR60.19 General NSPS Requirements
40CFR60.62(c) Portland Cement Plant NSPS Requirement for non-kiln, non-cooler sources
40CFR60.7 General NSPS Requirements
40CFR60.8 General NSPS Requirements
Refer to Attachment TA-E05-E3

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram:	EU05
2. Emission Point Type Code: [ ] 1 [ ] 2 [x] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):	Refer to Attachment TA-E05-E3
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code: [ ] D [ ] F [x] H [ ] P [ ] R [ ] V [ ] W	
6. Stack Height:	200 feet
7. Exit Diameter:	1.1 feet
8. Exit Temperature:	90 °F

9. Actual Volumetric Flow Rate:	**18,000** acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):	
14. Emission Point Comment (limit to 200 characters): **Refer to Attachment TA-E05-E3 for point-specific data.**	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Mineral Products; Cement Manufacturing Dry Process; Cement storage silos**	
2. Source Classification Code (SCC): **3-05-006-18**	
3. SCC Units: **tons cement produced**	
4. Maximum Hourly Rate: **500**	5. Maximum Annual Rate: **4,380,000**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): **Rate refers to combined rate to all cement silos as stated in permit AC13-21098 and PSD-FL-236. See Attachment TA-E05-C5.**	

Segment Description and Rate: Segment 2 of

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):

Mineral Products; Cement Manufacturing Dry Process; Cement Loadout

2. Source Classification Code (SCC):

3. SCC Units: **Tons cement produced**

4. Maximum Hourly Rate:	5. Maximum Annual Rate:
500	**4,380,000**

6. Estimated Annual Activity Factor:

7. Maximum Percent Sulfur:	8. Maximum Percent Ash:

9. Million Btu per SCC Unit:

10. Segment Comment (limit to 200 characters):

Rate refers to combined rate to all cement Loadout units as stated in AC13-21098 and PSD-FL-236. See Attachment TA-E05-C5.

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	018		EL
PM10	018		EL

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **6** lb/hour **26.3** tons/year
4. Synthetically Limited? [ ] Yes [**X**] No
5. Range of Estimated Fugitive/Other Emissions: [**X**] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.01 gr/acf** Reference: **Manufacturer Info.**
7. Emissions Method Code: [ ] 0 [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **70,000 acfm x 0.01 gr/acf x 60 min/hr x 1 lb/7000 gr = 6 lb/hr; 6 lb/hr x 8760 hr/yr = 26.3 TPY. See Attachment TA-E05-H9.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

Emissions Unit Information Section 5 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: OTHER	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions: 1 lb/hour	4.5 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 9	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Emission limit applies only to Cement Packhouse, baghouse B-621, per permit PSD-FL-28.	

B.

1. Basis for Allowable Emissions Code: OTHER	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 0.01 gr/acf	
4. Equivalent Allowable Emissions: 0.52 lb/hour	2.26 tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Emission limit applies to Cement Silos 7-9, baghouse F-512, per PSD-FL-236.	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **PM10**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **6** lb/hour **26.3** tons/year
4. Synthetically Limited? [ ] Yes [**X**] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.01 gr/acf** Reference: **Manufacturer Info.**
7. Emissions Method Code: [ ] 0 [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **70,000 acfm x 0.01 gr/acf x 60 min/hr x 1 lb/7000 gr = 6 lb/hr; 6 lb/hr x 8760 hr/yr = 26.3 TPY. See Attachment TA-E05-H9**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

Emissions Unit Information Section 5 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions:	**1** lb/hour **4.5** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 9**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Emission limit applies only to Cement Packhouse, baghouse B-621, per permit PSD-FL-28.**	

B.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.01 gr/acf**	
4. Equivalent Allowable Emissions:	**0.52** lb/hour **2.26** tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Emission limit applies only to Cement Silos 7-9, Baghouse F-512, per PSD-FL-236.**	

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 3

1.	Visible Emissions Subtype: **VE05**
2.	Basis for Allowable Opacity: [ ] Rule [X] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: **Annual VE test, EPA Method 9**
5.	Visible Emissions Comment (limit to 200 characters): **5% opacity only for Bulk Cement Loadout Unit 3 Packhouse and Cement Silos 10, 11 and 12 pursuant to BACT determination (10/15/79). Cement Silos 7-9 limited to 5% opacity per PSD-FL-236.**

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

1.	Visible Emissions Subtype: **VE10**
2.	Basis for Allowable Opacity: [X] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: **10** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: **Annual VE test, EPA Method 9**
5.	Visible Emissions Comment (limit to 200 characters): **10% opacity limit only for Cement Silos 10, 11, 12,and Rule 40CFR60.62(c). Bulk Cement Loadout Units 1 and 2, per PSD-FL-236 and PSD-FL-236.**

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 3 of 3

1.	Visible Emissions Subtype: **VE20**
2.	Basis for Allowable Opacity: [x] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: **20** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: **Annual VE test, EPA Method 9**
5.	Visible Emissions Comment (limit to 200 characters): **Rule 62-296.320(4)(b) General Visible Emission Standard, only for Cement Silos 1-6.**

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

1.	Visible Emissions Subtype:
2.	Basis for Allowable Opacity: [ ] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance:
5.	Visible Emissions Comment (limit to 200 characters):

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [x] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[X] C	[ ] E	[ ] Unknown
	SO_2	[ ] C	[ ] E	[ ] Unknown
	NO_2	[ ] C	[ ] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	lb/hour		tons/year
	NO_2			tons/year
5.	PSD Comment (limit to 200 characters):			
	Emission unit does not emit SO2 or NOx. Baseline emissions are unknown.			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram	
	[X] Attached, Document ID: TA-E05-L1	
	[ ] Not Applicable	[ ] Waiver Requested
2.	Fuel Analysis or Specification	
	[ ] Attached, Document ID: _____	
	[X] Not Applicable	[ ] Waiver Requested
3.	Detailed Description of Control Equipment	
	[X] Attached, Document ID: TA-E05-L3	
	[ ] Not Applicable	[ ] Waiver Requested
4.	Description of Stack Sampling Facilities	
	[ ] Attached, Document ID: _____	
	[X] Not Applicable	[ ] Waiver Requested
5.	Compliance Test Report	
	[ ] Attached, Document ID: _____	[X] Not Applicable
	[ ] Previously Submitted, Date: _____	
6.	Procedures for Startup and Shutdown	
	[ ] Attached, Document ID: _____	[X] Not Applicable
7.	Operation and Maintenance Plan	
	[ ] Attached, Document ID: _____	[X] Not Applicable
8.	Supplemental Information for Construction Permit Application	
	[X] Attached, Document ID: Attachment A	[ ] Not Applicable
9.	Other Information Required by Rule or Statute	
	[ ] Attached, Document ID: _____	[X] Not Applicable

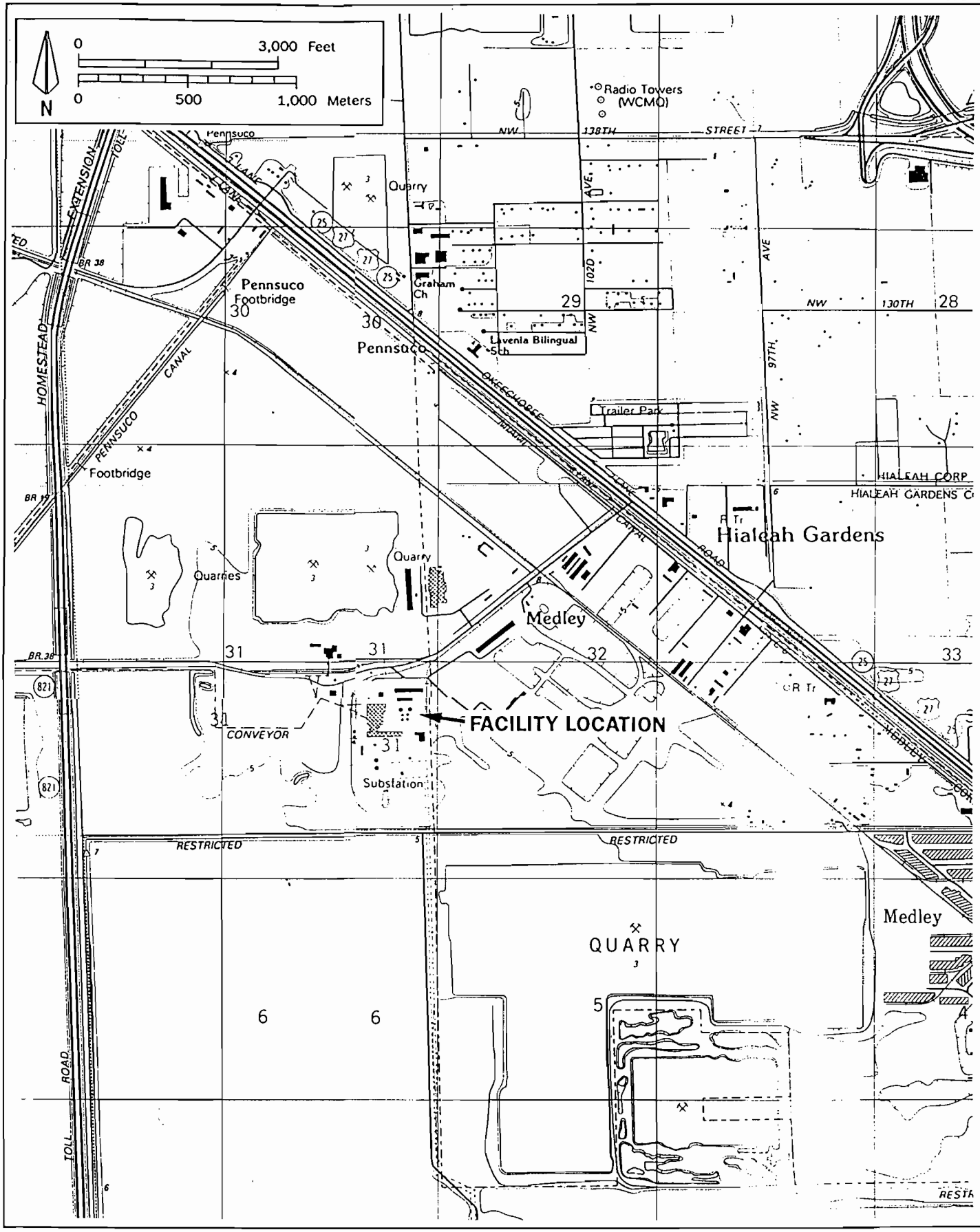
Additional Supplemental Requirements for Category I Applications Only

10.	Alternative Methods of Operation [ ] Attached, Document ID: _____ [ ] Not Applicable
11.	Alternative Modes of Operation (Emissions Trading) [ ] Attached, Document ID: _____ [ ] Not Applicable
12.	Identification of Additional Applicable Requirements [ ] Attached, Document ID: _____ [ ] Not Applicable
13.	Compliance Assurance Monitoring Plan [ ] Attached, Document ID: _____ [ ] Not Applicable
14.	Acid Rain Permit Application (Hard Copy Required) [ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ [ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ [ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ [ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ [ ] Not Applicable

ATTACHMENT TA-FI-E1

AREA MAP

06-17-98



Attachment TA-FI-E1
Area Map
Tarmac America, Pennsuco Cement Plant

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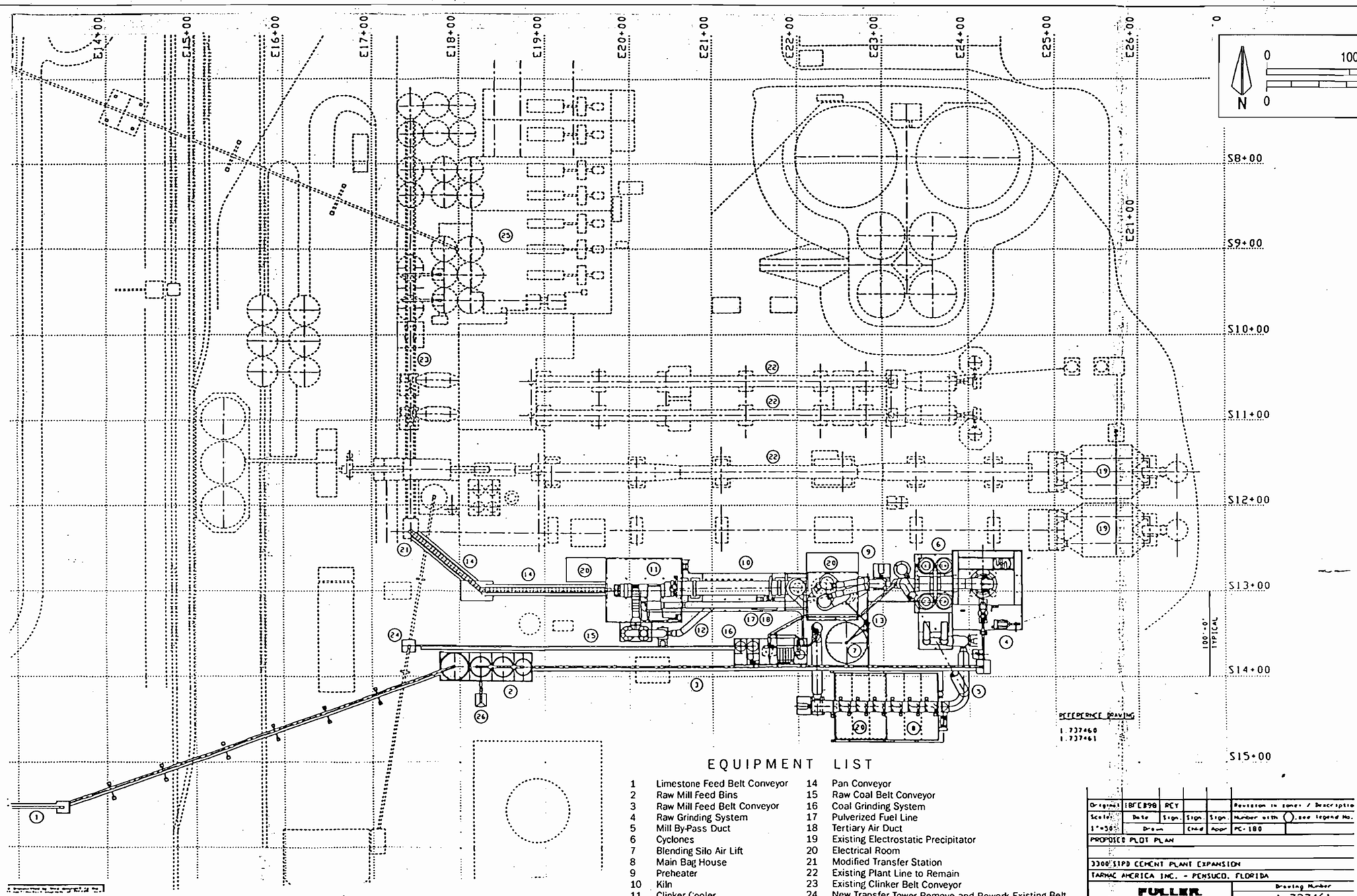
ATTACHMENT TA-FI-E2

FACILITY PLOT PLAN



EQUIPMENT LIST

1	Limestone Feed Belt Conveyor	14	Pan Conveyor
2	Raw Mill Feed Bins	15	Raw Coal Belt Conveyor
3	Raw Mill Feed Belt Conveyor	16	Coal Grinding System
4	Raw Grinding System	17	Pulverized Fuel Line
5	Mill By-Pass Duct	18	Tertiary Air Duct
6	Cyclones	19	Existing Electrostatic Precipitator
7	Blending Silo Air Lift	20	Electrical Room
8	Main Bag House	21	Modified Transfer Station
9	Preheater	22	Existing Plant Line to Remain
10	Kiln	23	Existing Clinker Belt Conveyor
11	Clinker Cooler	24	New Transfer Tower Remove and Rework Existing Belt
12	Cooler Vent	25	Existing Finish Grinding System
13	Air Lift/Kiln Feed	26	Additive Receiving Hopper

Original	18FEB98	RCY			Revision to zones / Description
Scale:	Date	Sign.	Sign.	Sign.	Number with ○ see legend No.
1"=30'	Drawn	Chkd	Appr	PC-180	
PROPOSED PLOT PLAN					
3300 STPD CEMENT PLANT EXPANSION					
TARMAC AMERICA INC. - PENSUCO, FLORIDA					
FULLER					Drawing Number 1.737461

Attachment TA-FI-E2
Plot Plan
Tarmac America, Pennsuco Cement Plant
(Page 1 of 2)

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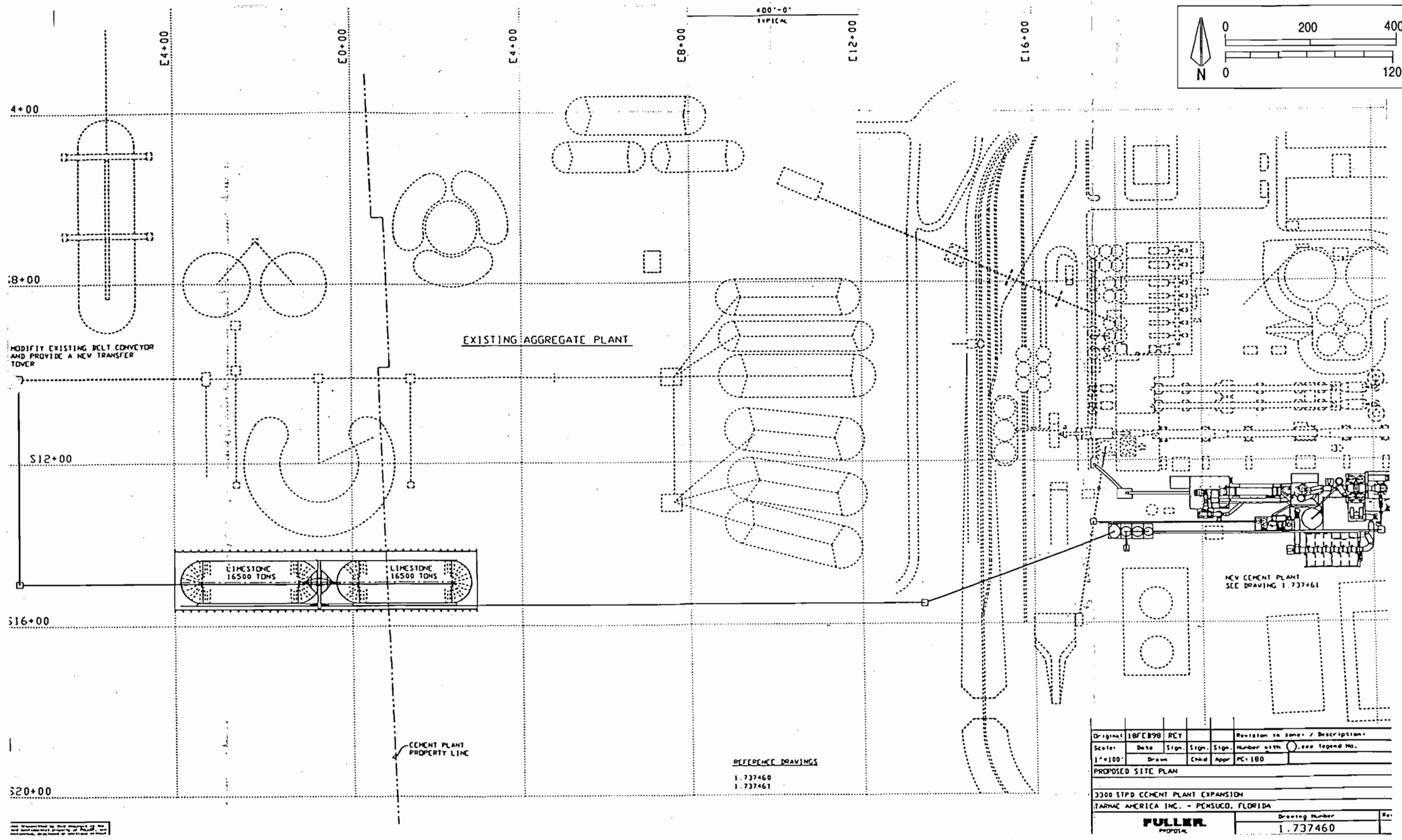

Attachment TA-FI-E2
Plot Plan
Tarmac America, Pennsuco Cement Plant
(Page 2 of 2)

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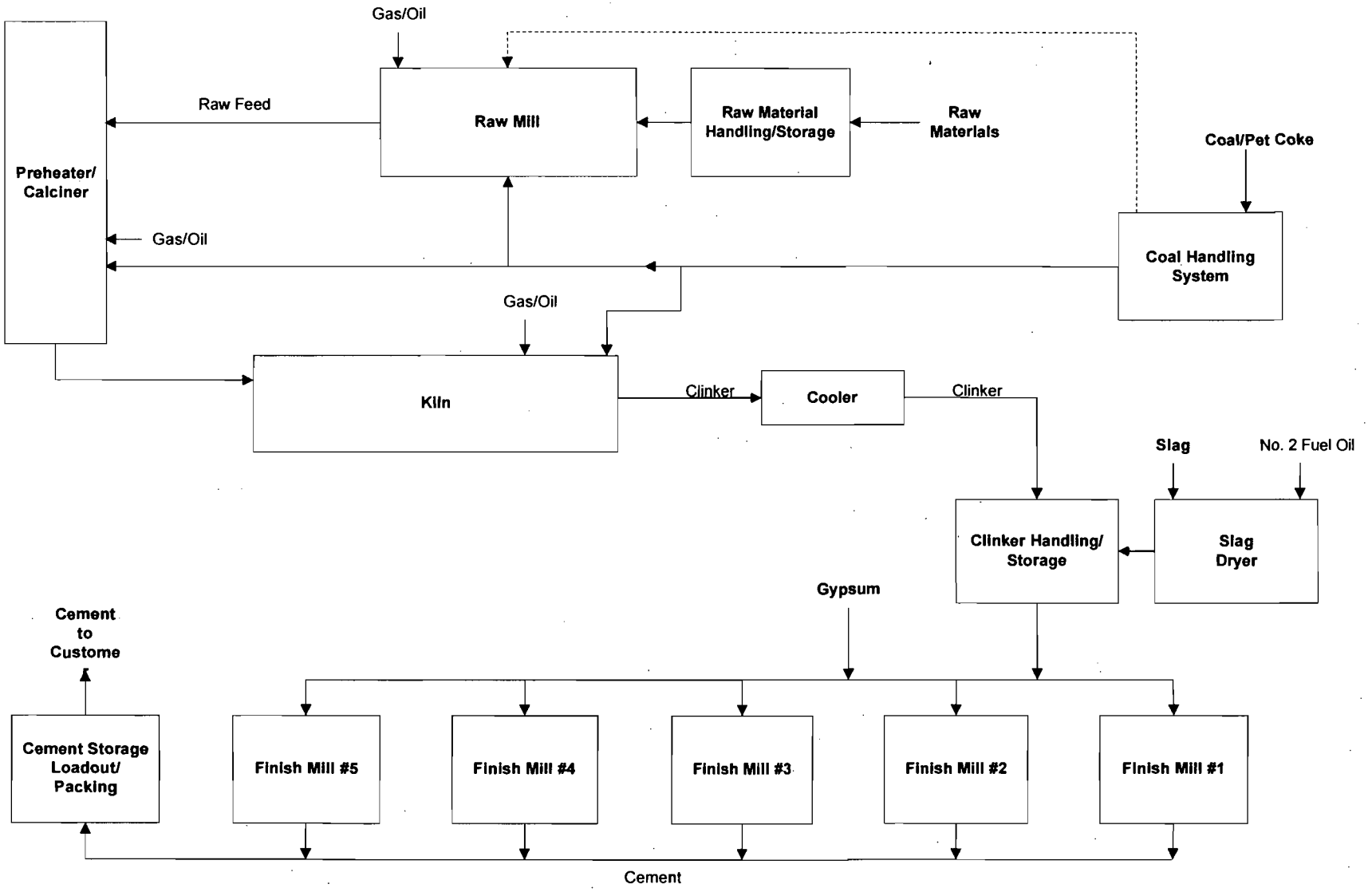
ATTACHMENT TA-FI-E1

PROCESS FLOW DIAGRAM



Attachment TA-FE-E1
Process Flow Diagram
Tarmac America
Medley, FL

Process Flow Legend:
Solid / Liquid
Gas
Steam

Emission Unit: FACILITY FLOW DIAGRAM

Filename: TAFDNEW1.VSD

Latest Revision Date: 6/27/98

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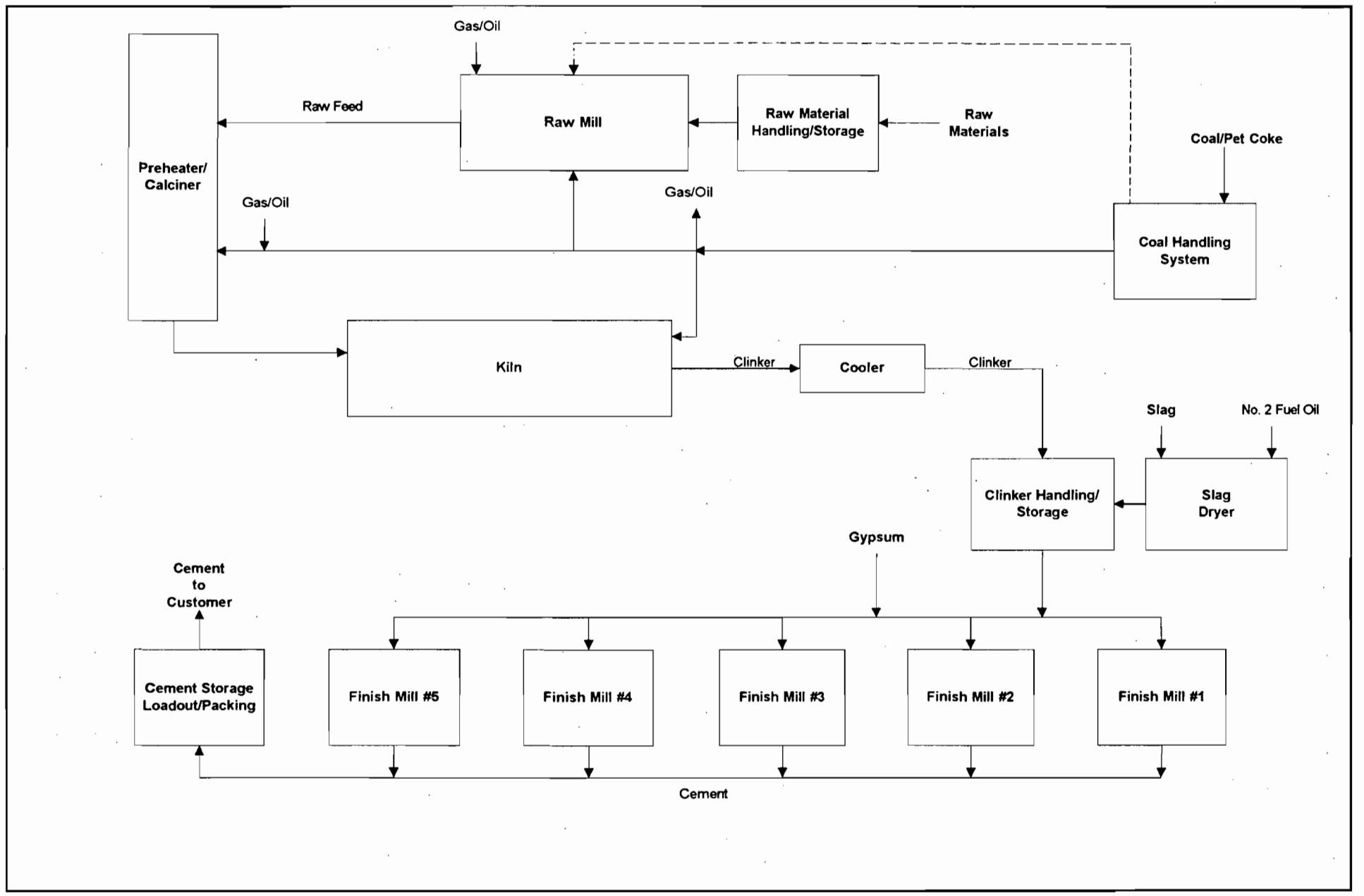
ATTACHMENT TA-FI-E3

PROCESS FLOW DIAGRAM



Attachment TA-FE-E1
Process Flow Diagram
Tarmac America
Medley, FL

Process Flow Legend:
Solid / Liquid
Gas
Steam

Emission Unit: FACILITY FLOW DIAGRAM

Filename: TAFDNEW1.VSD

Latest Revision Date: 6/27/98

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ATTACHMENT TA-E01-E3

DESCRIPTION OF EMISSION POINTS FOR VE TRACKING

Table TA-E01-E3. Emission Point Detail Information for Coal Handling System, Emission Unit 01, Tarmac America, Pennsuco

Source	Stack Ht (ft)	Stack Diam (ft)	Exit Temp. (F)	Flowrate (acfm)	
Coal Storage Pile	NA	NA	NA	NA	
Pet Coke Storage Pile	NA	NA	NA	NA	
Undercar Rail Unloading	NA	NA	NA	NA	
Front End Loader transfers	NA	NA	NA	NA	
Coal Feed Bin	60	1.0	77	3,000	
Petroleum Coke Feed Bin	60	1.0	77	3,000	
Coal Mill	370	14.0	176	25,700	(a)

(a) Coal mill vents to atmosphere through common plant stack. Flow rate represents coal mill exhaust gas only.

ATTACHMENT TA-E01-H9

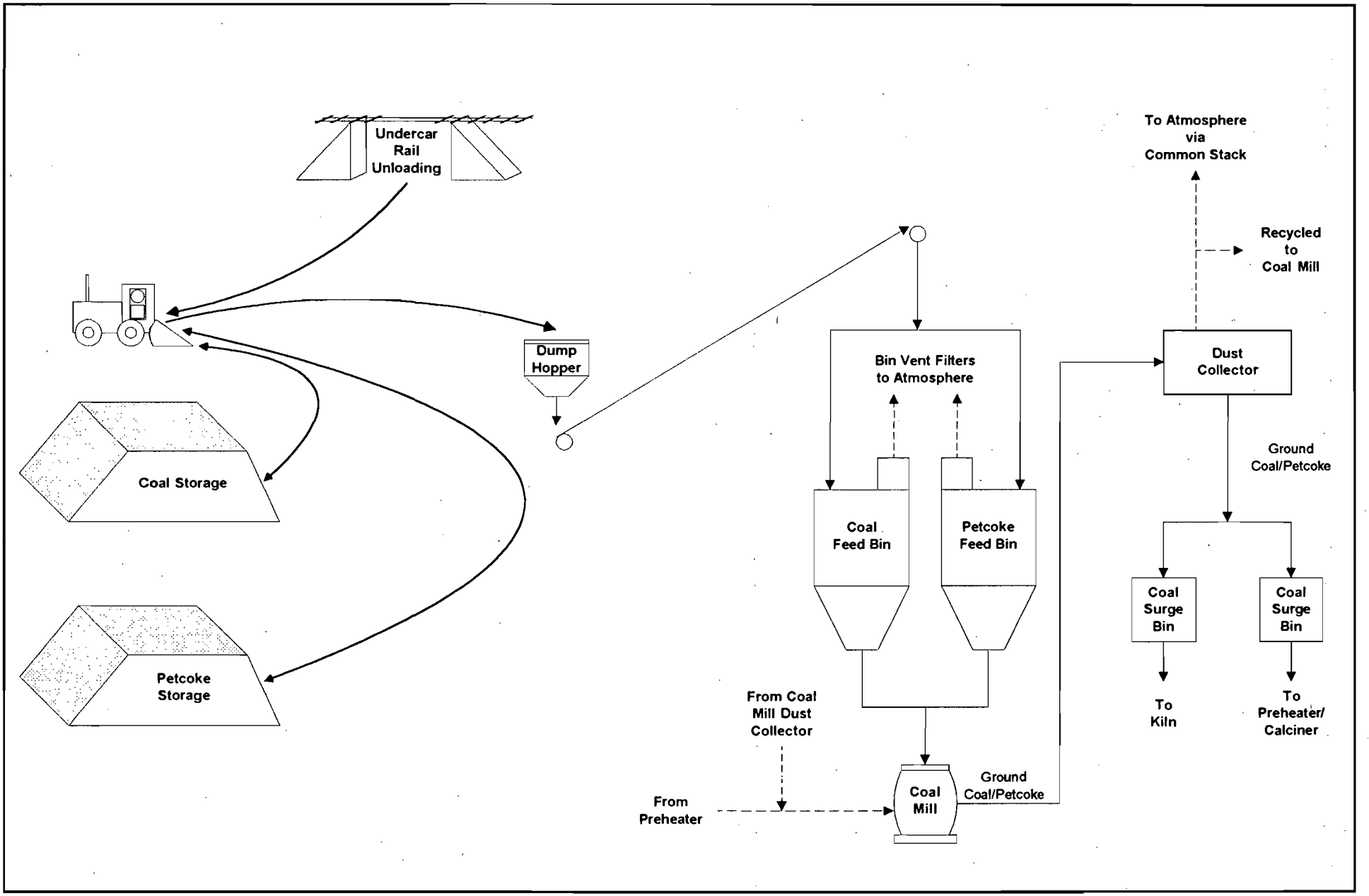
POLLUTANT POTENTIAL/ESTIMATED EMISSIONS COMMENT

Table TA-E01-H9. Emission Point Detail Information for Coal Handling System, Emission Unit 01, Tarmac America, Penns

Source	Grain Loading (gr/dscf)	Flowrate (acfm)	Potential PM Emissions (lb/hr)	(TPY)
Coal/Petcoke Storage Pile	NA	NA	NA	0.196
Undercar Rail Unloading	NA	NA	NA	0.098
Front End Loader Transfer	NA	NA	NA	25.45
Coal Feed Bin	0.01	3,000	0.3	1.13
Pet Coke Feed Bin	0.01	3,000	0.3	1.13
Coal Mill	0.01	25,700	2.2	9.65
Total		31,700	2.8	37.6

ATTACHMENT TA-E01-L1

PROCESS FLOW DIAGRAM



Atachment TA-E01-L1
ProcessFlow Diagram
Tarmac America
Medley, FL

Process Flow Legend:
Solid / Liquid
Gas
Steam

Emission Unit: COAL HANDLING SYSTEM

Filename: TAFDNEW1.VSD

Latest Revision Date: 6/27/98

Golder Associates

ATTACHMENT TA-E01-L3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

Table TA-E01-L3. Control Equipment Information for Coal Handling , Emission Unit 01. Tarmac America, Pennsuco

Source ID	Manufacturer	Model No.	Number of Bags	Flow Rate (acfm)	Cloth Area (ft^2)	Air to Cloth Ratio
Coal Feed Bin	Undetermined	Undetermined	Undetermined	3,000	857	3.5
Pet Coke Feed Bin	Undetermined	Undetermined	Undetermined	3,000	857	3.5
Coal Mill	Undetermined	Undetermined	Undetermined	25,700	6,425	4.0

ATTACHMENT TA-E02-L1

PROCESS FLOW DIAGRAM

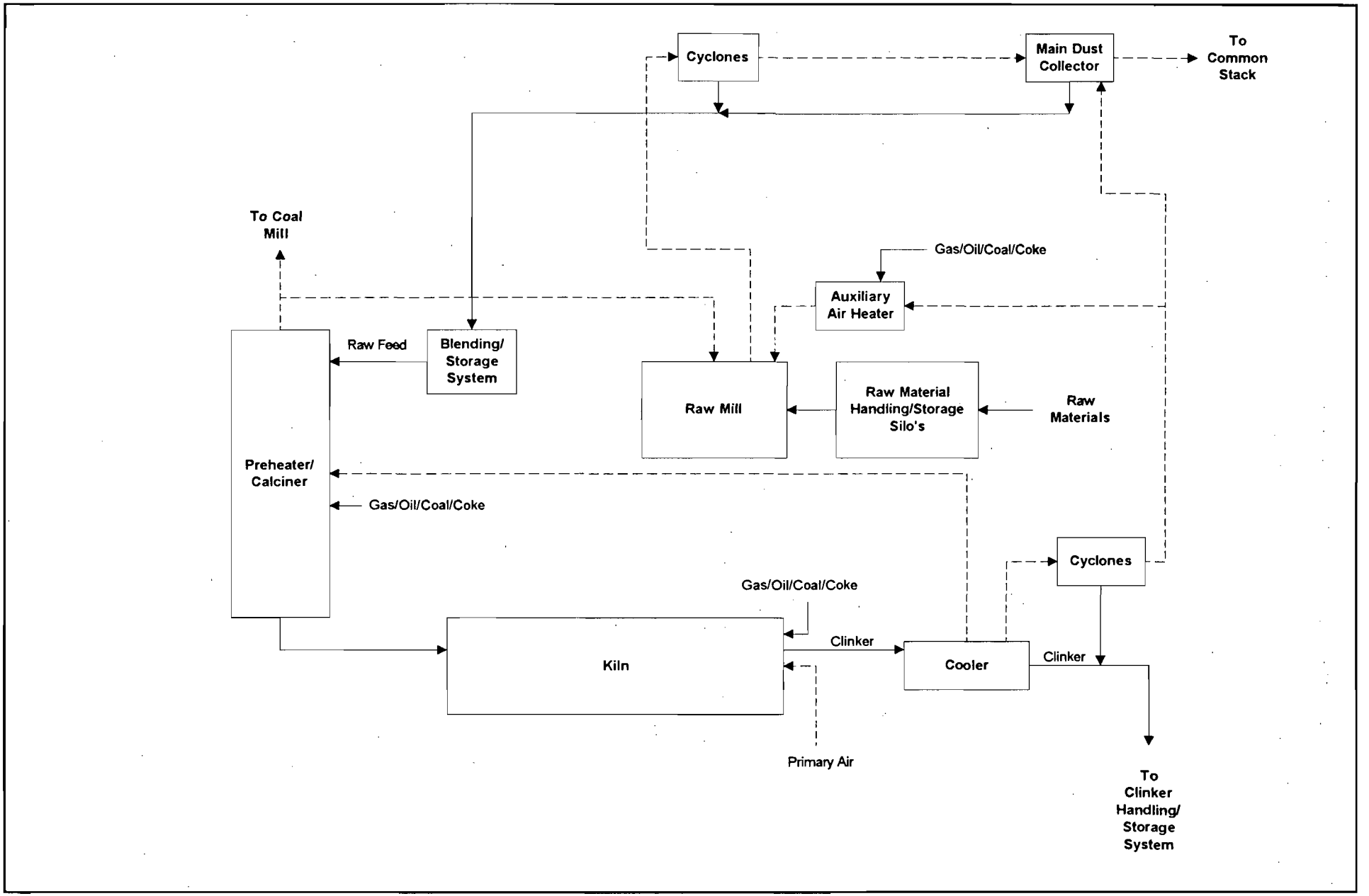


Figure TA-E02-L1
Process Flow Diagram
Tarmac America
Medley, FL

Process Flow Legend:
Solid / Liquid
Gas
Steam

Emission Unit: RAW MILL/PYROPROCESSING

Filename: TAFDNEW1.VSD

Latest Revision Date: 6/27/98

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ATTACHMENT TA-E02-L2

FUEL ANALYSIS OR SPECIFICATION

Attachment TA-E02-L2. Fuel Analysis Specification.

Parameter	No. 6 Residual Fuel Oil	Coal	Petroleum Coke	No. 2 Distillate Fuel Oil
Moisture	- -	8.5 %	12 %	- -
Density	8.0 lb/gal	--	- -	7.2 lb/gal
Heating Value	152,000 Btu/gal	12,500 Btu/lb	14,200 Btu/lb	138,800 Btu/gal
Nitrogen	0.5 %	1.1 %	- -	0.5 %
Sulfur	2 % Max	3.5 %	5.5 %	0.5 % Max
Ash/Inorganic	0-10	20 %	1.0 %	0-10

ATTACHMENT TA-E02-L3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

ATTACHMENT TA-E02-L3
DETAILED DESCRIPTION OF CONTROL EQUIPMENT

Particulate emissions from the raw mill/preheater/calciner/kiln/cooler will be controlled by a reverse-jet fabric filter. The design gas volume is 359,200 acfm at 181°F while the raw mill is operating and 446,200 acfm at 500°F while raw mill is down. The filter area has not been determined, and at design gas volume, the air-to-cloth ratio will be approximately 2.0 acfm/ft^2. The equipment vendor has not yet been selected.

ATTACHMENT TA-E03-C5

OPERATING CAPACITY COMMENT

Table. TA-E03-C5. Individual Maximum Process Rates for Finish Mills, Emission Unit 03, Tarmac America, Pennsuco.

Source Description	Number of Baghouses	Throughput Maximum (TPH)	(TPY)	
Finish Mill #1: baghouses	2	25	219,000	
Finish Mill #2: baghouses	2	25	219,000	
Finish Mill #3: baghouses	3	83.5	731,460	
Finish Mill #4: baghouses	5	125	1,095,000	
Finish Mill #5: baghouses	5	120	1,051,200	
TOTALS	17	378.5	1,614,400	(a)

(a) Represents cement production of 1,314,400 TPY based on maximum clinker production of 1,240,000 TPY, plus 300,000 TPY of slag.

ATTACHMENT TA-E03-E3

DESCRIPTION OF EMISSION POINTS FOR VE TRACKING

Table TA-E03-E3. Emission Point Detail Information for Finish Mills, Emission Unit 03, Tarmac America, Pennsuco

Finish Mill	Baghouse ID	Stack Ht (ft)	Estimated Stack Diam (ft)	Exit Temp. (F)	Flowrate (acfm)
#1	F-130	106	1	110	12,000
#1	F-113	106	1	110	11,800
#2	F-230	106	1	110	12,000
#2	F-213	106	1	110	11,800
#3	F-313	110	1.5	110	8,000
#3	F-330	110	1.5	110	20,000
#3	F-332	110	1.5	110	13,500
#4	F-430	110	2	110	30,000
#4	F-432	110	2	110	17,000
#4	F-603	110	1	110	8,000
#4	F-604	110	1	110	8,000
#4	F-605	110	1	110	4,000
#5	--	106	2	110	30,000
#5	--	106	2	110	17,000
#5	--	106	1	110	8,000
#5	--	106	1	110	8,000
#5	--	106	1	110	4,000

ATTACHMENT TA-E03-H8

CALCULATION OF EMISSIONS

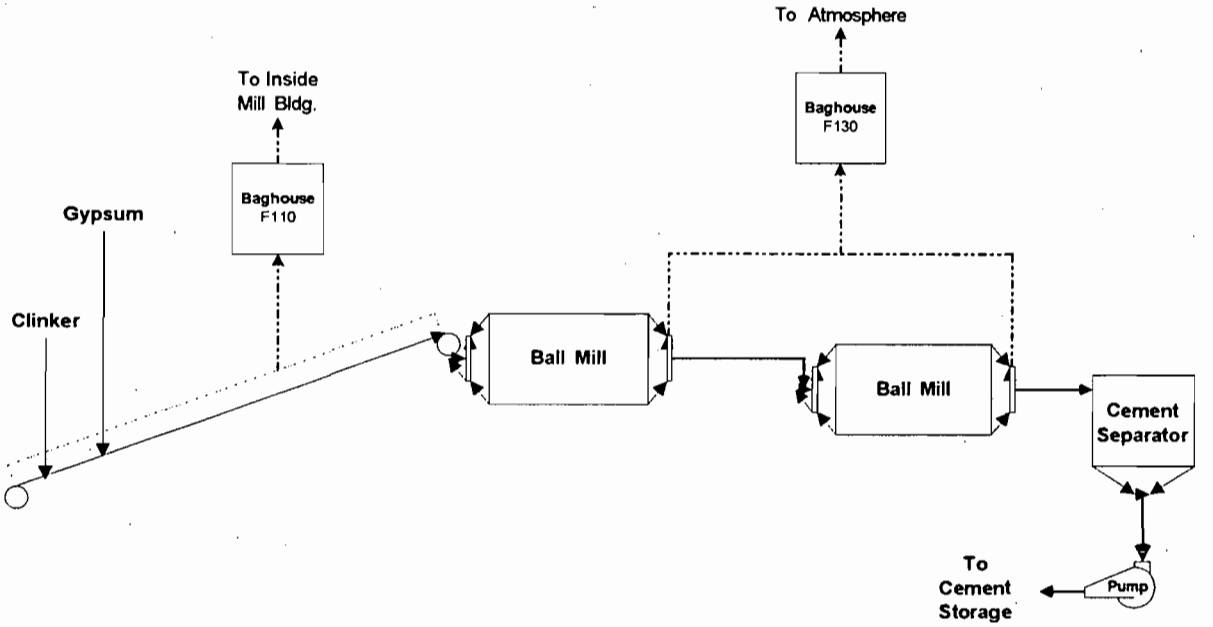
Table TA-E03-H8. Emission Pollutant Detail Information for Finish Mills, Emission Unit 03, Tarmac America, Pennsuco

Finish Mill	Baghouse	Process Rate (TPH)	Total Airflow (acfm)	Potential Emissions (lb/hr)		(TPY)
#1	F-130/F-113	25	23,800	2.04	(b)	8.94
#2	F-230/F-213	25	23,800	2.04	(b)	8.94
#3	F-313/F-330/F-332	83.5	41,500	3.56	(b)	15.58
#4	F-430/F-432/F-603/F-604/F-605	125	67,000	5.75	(a)	25.14
#5	--	120	67,000	5.75	(b)	25.14
Total		378.5	223,100	19.1		83.7

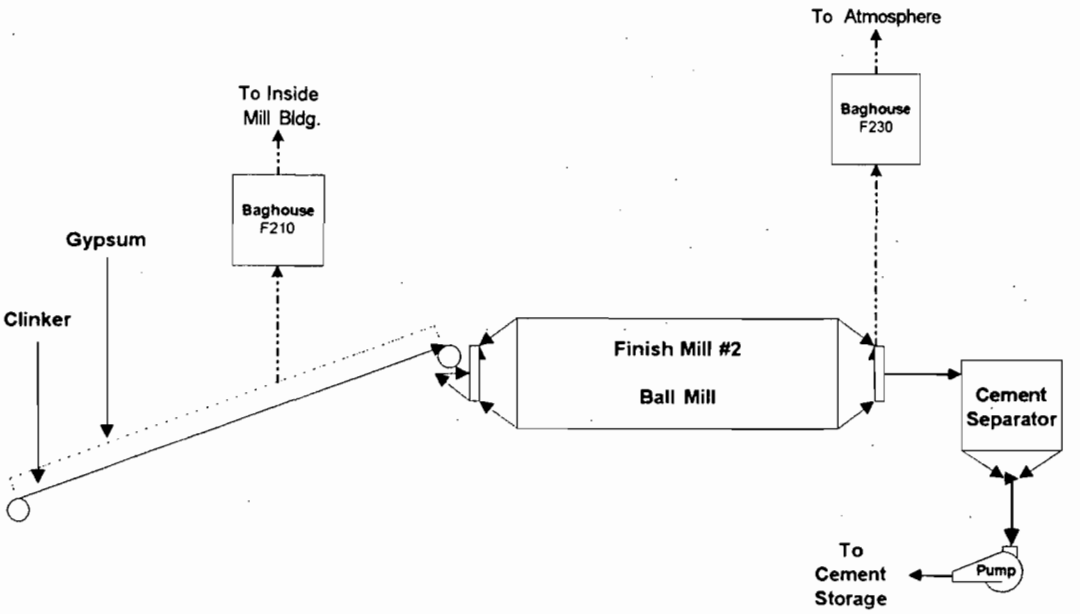
Notes
(a) Emissions are based on 0.01 gr/acf; limits by permit PSD-FL-230 and PSD-FL-236.
(b) Based on 0.01 gr/acf.

ATTACHMENT TA-E03-L1

PROCESS FLOW DIAGRAM



Attachment TA-E03-L1 Process Flow Diagram Tarmac America Medley, FL	Process Flow Legend: Solid / Liquid ——→ Gas - - - → Steam —·—·→	*Emission Unit:* FINISH MILL #1 *Filename:* TAFDNEW1.VSD *Latest Revision Date:* 6/27/98	Golder Associates



Attachment TA-E03-L1
Process Flow Diagram
Tarmac America
Medley, FL

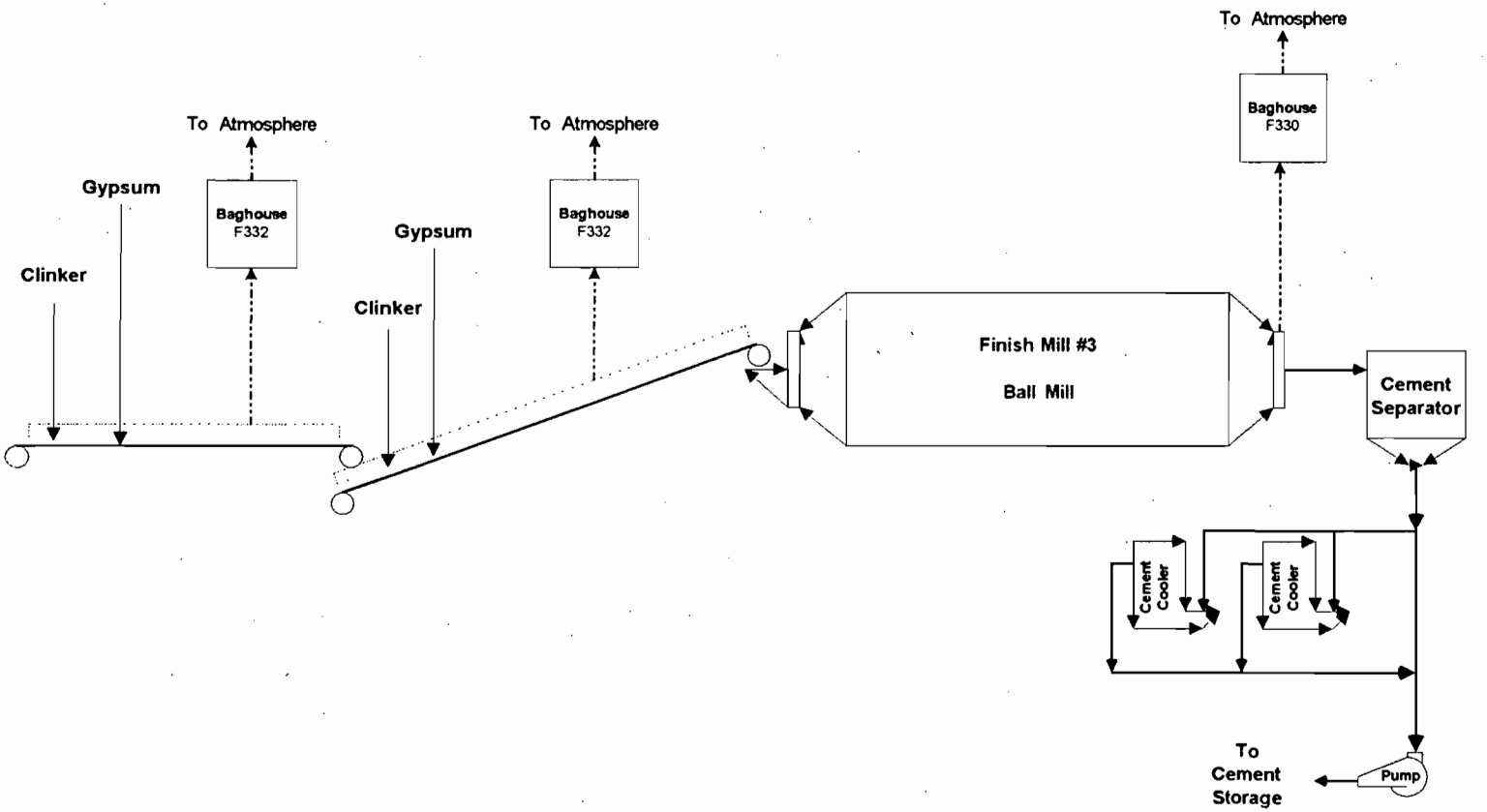
Process Flow Legend:
Solid / Liquid
Gas
Steam

Emission Unit: FINISH MILL #2

Filename: TAFDNEW1.VSD

Latest Revision Date: 6/27/98

Golder Associates



AttachmentTA-E03-L1
Process Flow Diagram
Tarmac America
Medley, FL

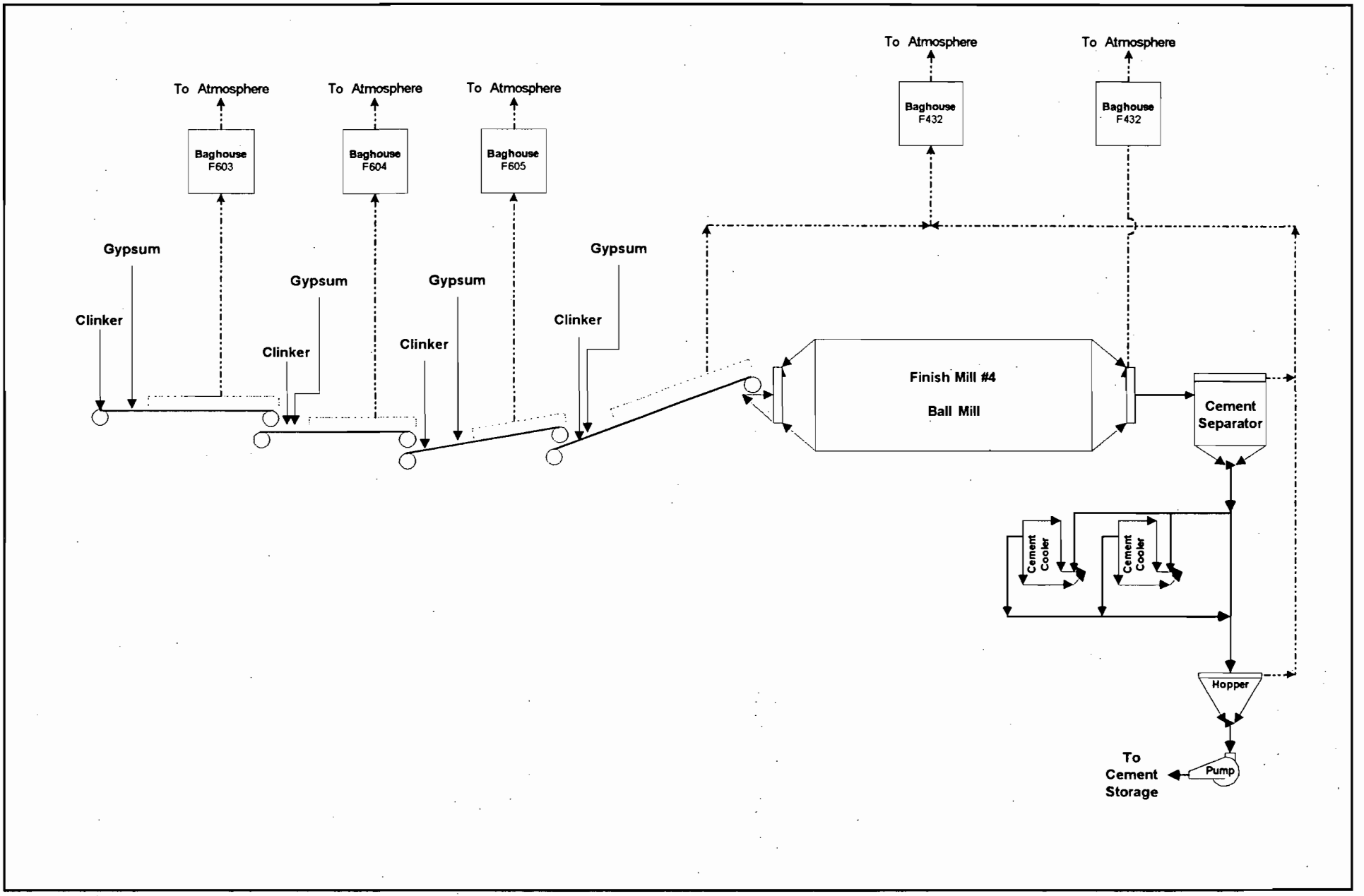
Process Flow Legend:
Solid / Liquid
Gas
Steam

Emission Unit: FINISH MILL #3

Filename: TAFDNEW1.VSD

Latest Revision Date: 6/27/98

Golder Associates



Atachment TA-E03-L1
Process Flow Diagram
Tarmac America
Medley, FL

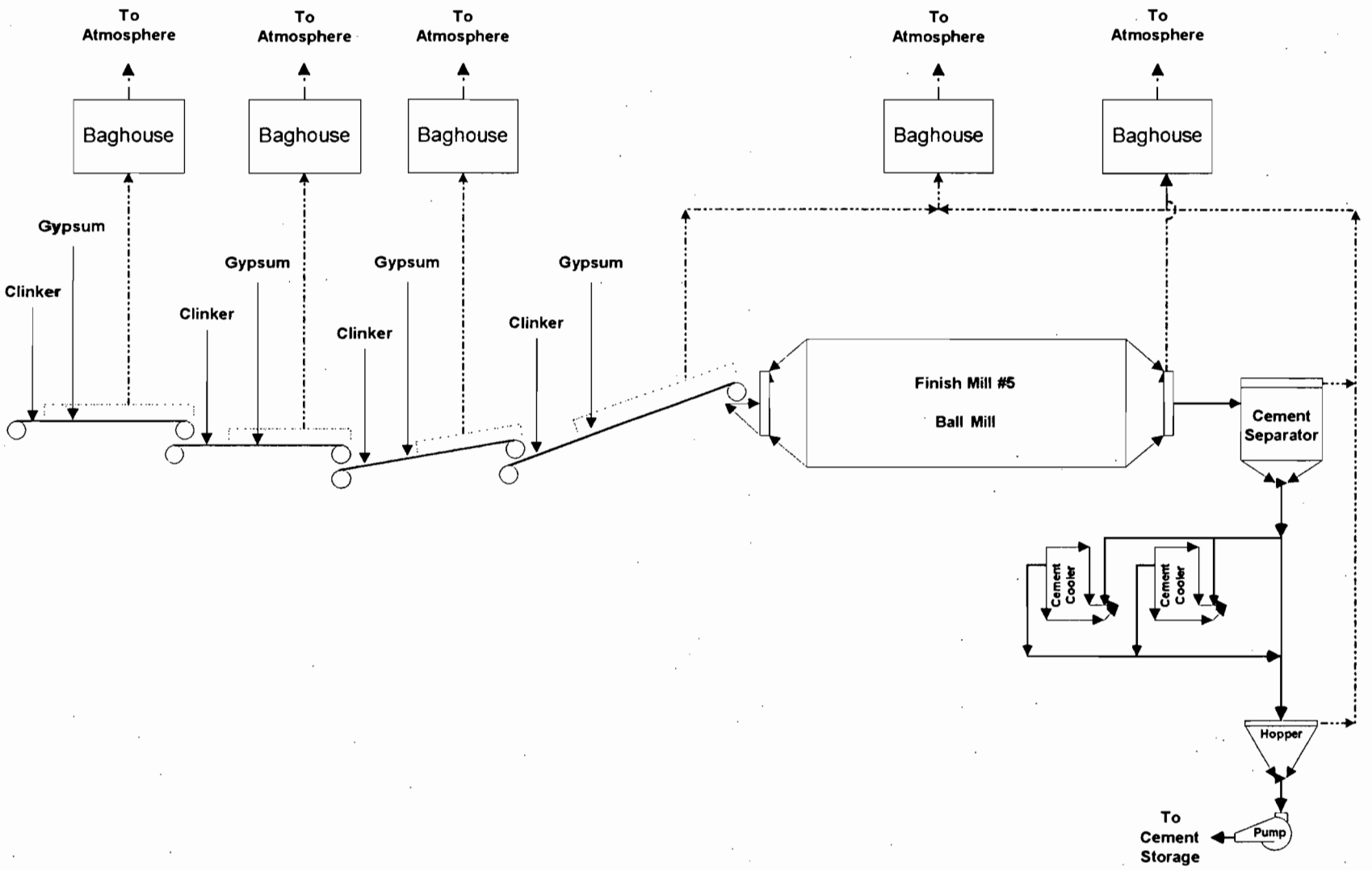
Process Flow Legend:
Solid / Liquid
Gas
Steam

Emission Unit: FINISH MILL #4

Filename: TAFDNEW1.VSD

Latest Revision Date: 6/27/98

Golder Associates



Atachment TA-E03-L1
Process Flow Diagram
Tarmac America
Medley, FL

Process Flow Legend:
Solid / Liquid
Gas
Steam

Emission Unit: FINISH MILL #5

Filename: TAFDNEW1.VSD

Latest Revision Date: 6/27/98

Golder Associates

ATTACHMENT TA-E03-L3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

Table TA-E03-L3. Control Equipment Information for Finish Mills, Emission Unit 03, Tarmac America, Pennsuco

Finish Mill	Baghouse ID	Manufacturer	Model No.	Number of Bags	Flow Rate (acfm)	Cloth Area (ft^2)	Air to Cloth Ratio
# 1	F-130	Norblo	468 AMT	468	12,000	1,977	6.1
# 1	F-113	Mikrpul	16FF-10-20	168	11,800	2,100	5.6
#2	F-230	Norblo	468 AMT	468	12,000	6,450	1.9
#2	F-213	Mikrpul	16FF-10-20	168	11,800	2,100	5.6
#3	F-330	Norblo	702 AMT	702	20,000	9,477	2.1
#3	F-332	Norblo	390 AMT	390	13,500	5,265	2.6
#3	F-313	Mikropul	196S-10-20	196	8,000	2,300	3.5
#4	F-432	Fuller	5 zone #48	240	17,000	2,510	6.8
#4	F-605	Mikropul	645-10-30	64	4,000	753	5.3
#4	F-603	Mikropul	121S-10-20	121	8,000	1,424	5.6
#4	F-430	Fuller	6 zone #96	576	30,000	6,028	5.0
#4	F-604	Mikropul	121S-10-20	121	8,000	1,424	5.6
#5	F-432	not yet selected	--	--	17,000	2,500	6.8
#5	F-605	not yet selected	--	--	4,000	755	5.3
#5	F-603	not yet selected	--	--	8,000	1,429	5.6
#5	F-430	not yet selected	--	--	30,000	6,000	5.0
#5	F-604	not yet selected	--	--	8,000	1,429	5.6

ATTACHMENT TA-E04-C5

OPERATING CAPACITY COMMENT

Table TA-E04-C5. Individual Maximum Process Rates for Clinker Handling/Storage Emission Unit 04, Tarmac America, Pennsuco.

Source Description	Number of Baghouses	Throughput Maximum (TPH)	(TPY)	
CHS 1-4	6	160	1,240,000	Limited by Cooler
Slag Dryer Transfer	NA	125	300,000	Limited by Slag Dryer
Total		285	1,540,000	
Clinker Silos 1, 2, 4, 5, 12, 18	1	160	1,240,000	
Clinker Silos 11,19,20	1	160	1,240,000	
Clinker Silos 21-23,26-28	1	160	1,540,000	

CHS = Clinker Handling System

ATTACHMENT TA-E04-E3

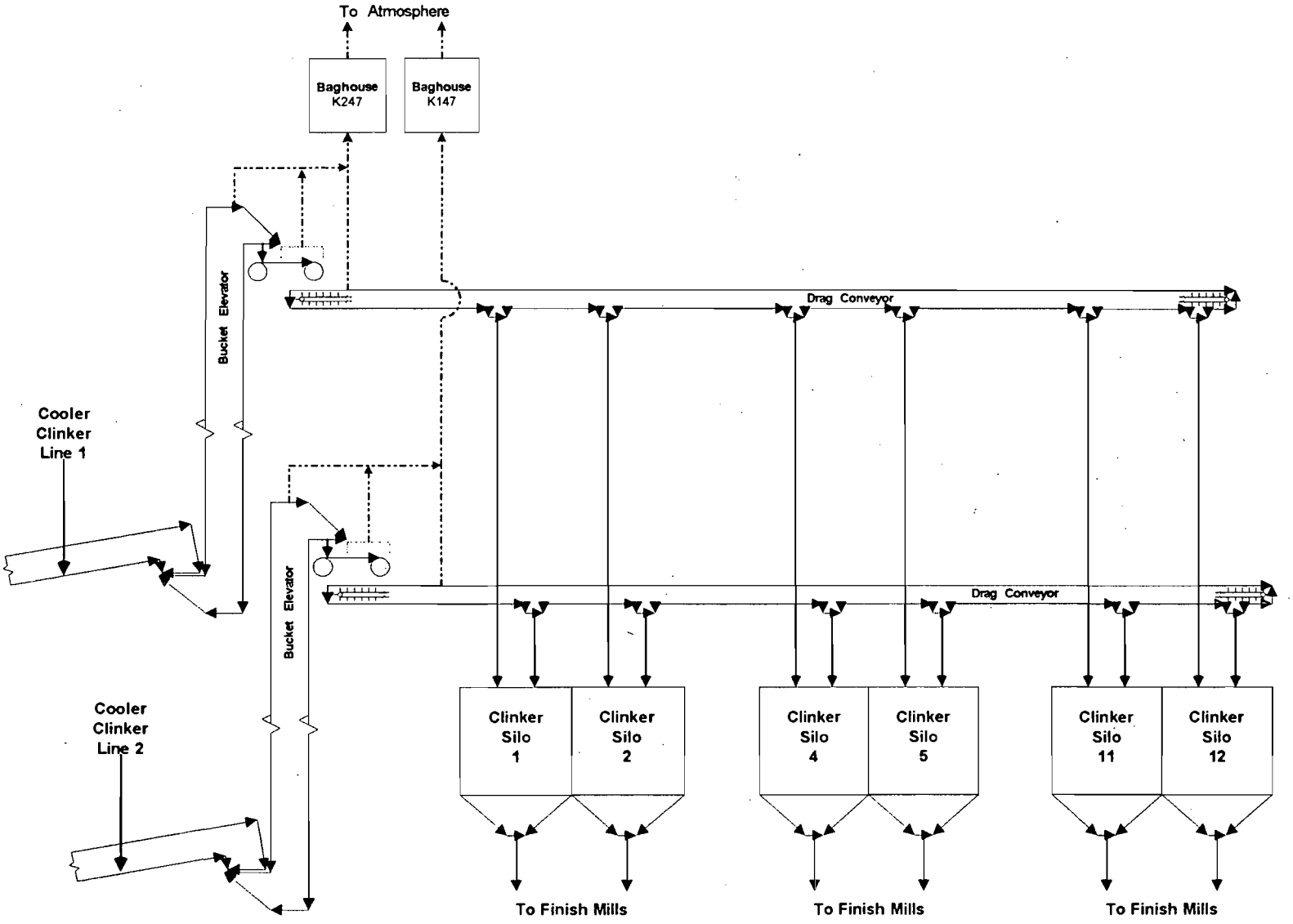
DESCRIPTION OF EMISSION POINTS FOR VE TRACKING

Table TA-E04-E3. Emission Point Detail Information for Clinker Handling and Storage, Emission Unit 04, Tarmac America, Pennsuco

Source	Baghouse ID	Stack Ht (ft)	Estimated Stack Diam (ft)	Exit Temp. (F)	Flowrate (acfm)
Handling Line 1	K-247	147	1	77	3,000
Handling Line 2	K-147	147	1	77	3,000
Handling Line 3	K-347	160	1	77	5,000
Handling Line 4	K-447	160	1	77	5,000
Clinker Silo 4, 18	K-521	130	1	77	1,500
Clinker Silo 11,19,20	K-522	130	1	77	1,500
Clinker Silo 21-23, 26-28	K-633	130	1	77	1,500
Total					20,500

ATTACHMENT TA-E04-L1

PROCESS FLOW DIAGRAM



Attachment TA-E04-L1
Process Flow Diagram
Tarmac America
Medley, FL

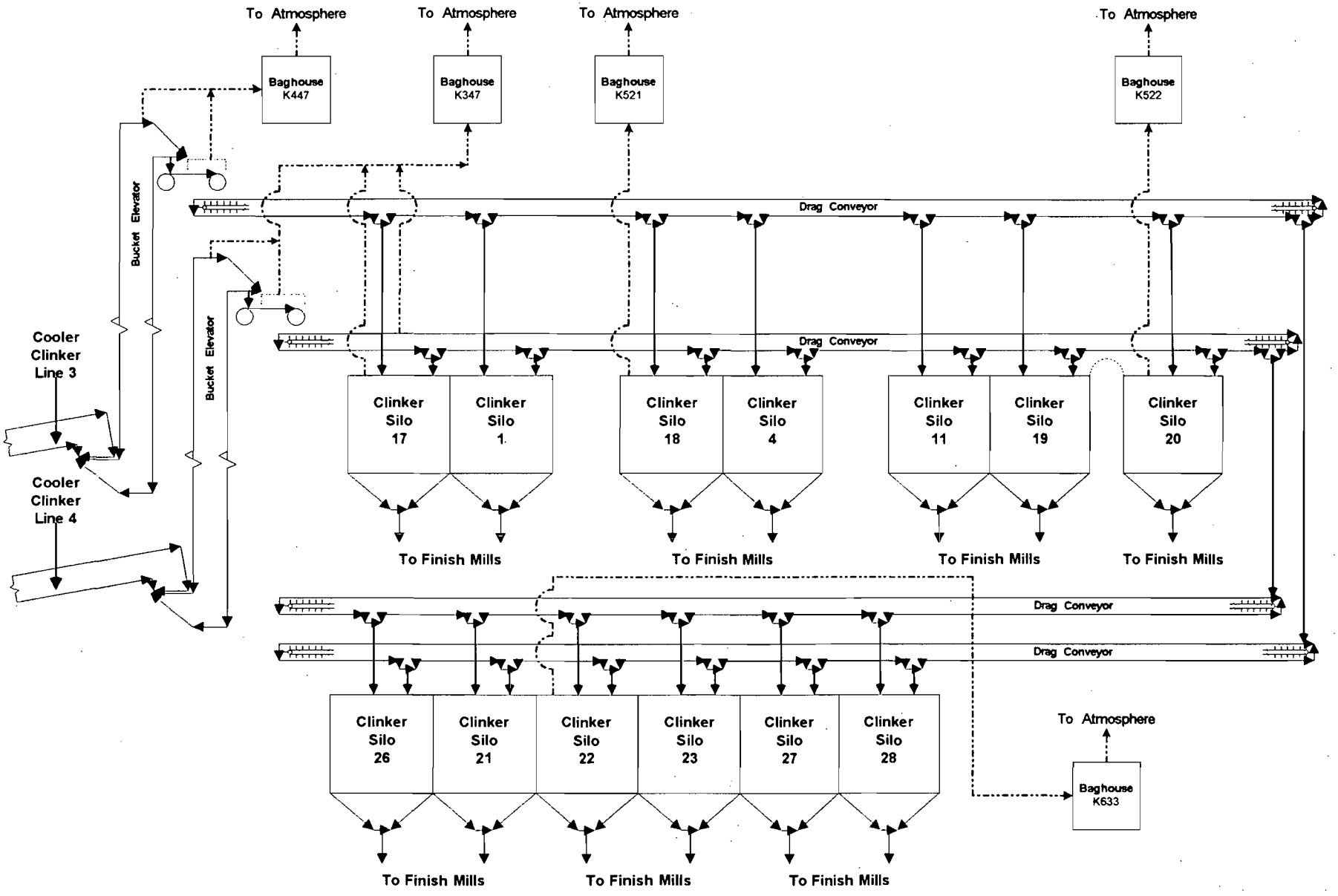
Process Flow Legend:
Solid / Liquid
Gas
Steam

Emission Unit: CLINKER HANDLING/STORAGE 1 OF 2

Filename: TAFDNEW1.VSD

Latest Revision Date: 6/27/98

Golder Associates



Attachment TA-E04-L1
Process Flow Diagram
Tarmac America
Medley, FL

Process Flow Legend:
Solid / Liquid
Gas
Steam

Emission Unit: CLINKER HANDLING/STORAGE 2 OF 2

Filename: TAFDNEW1.VSD

Latest Revision Date: 6/27/98

Golder Associates

ATTACHMENT TA-E04-L3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

Table TA-E04-L3. Control Equipment Information for Clinker Handling / Storage, Emission Unit 04. Tarmac America, Pennsuco

Source ID	Baghouse ID	Manufacturer	Model No.	Number of Bags	Flow Rate (acfm)	Cloth Area (ft^2)	Air to Cloth Ratio
Handling Line 1	K-247	Norblo	120 AMST	120	3000	1650	1.8
Handling Line 2	K-147	Norblo	120 AMST	120	3000	1650	1.8
Handling Line 3	K-347	Norblo	11-BE-88	88	5000	1100	4.5
Handling Line 4	K-447	Norfelt	HE-2-6	32	1500	500	3.0
Clinker Silo 4, 18	K-521	Norfelt	HE-2-6	32	1500	500	3.0
Clinker Silo 11,19,20	K-522	Norblo	11-BE-88	88	5000	1100	4.5
Clinker Silo 21-23, 26-28	K-633	Norblo	HE-66	66	1500	1040	1.4

ATTACHMENT TA-E05-C5

OPERATING CAPACITY COMMENT

Table TA-E05-C5. Individual Maximum Process Rates for Cement Storage/Loadout Emission Unit 05, Tarmac America, Pennsuc

Source	Max Process Rate (TPH)	
Cement Silos 1-6	500	(a)
Cement Silos 7-9	125	(a)
Cement Silo 10-12	500	(a)
Bulk Loadout Unit 1	250	(b)
Bulk Loadout Unit 2	250	(b)
Bulk Loadout Unit 3	500	(b)
Packhouse	85	

Notes:

(a) Process rate limit for all silo's combined is 500 TPH
(b) Process rate limit for all loadout unit's combined is 500 TPH

ATTACHMENT TA-E05-E3

DESCRIPTION OF EMISSION POINTS FOR VE TRACKING

Table TA-E05-E3. Emission Point Detail Information for Cement Storage/Loadout , Emission Unit 05, Tarmac America, Pennsuco

Source	Subject to NSPS?	Baghouse ID	Stack Ht (ft)	Estimated Stack Diam (ft)	Exit Temp. (F)	Flowrate (acfm)
Cement Silos 1-6	No	F-511	200	1	77	18,000
Cement Silos 7-9	No	F-512	200	1	77	10,000
Cement Silo 10	Yes	F-513	200	1	77	5,000
Cement Silo 11	Yes	F-514	200	1	77	5,000
Cement Silo 12	Yes	F-515	200	1	77	5,000
Bulk Loadout Unit 1	No	B-110	30	1	77	3,000
Bulk Loadout Unit 2	No	B-210	30	1	77	3,000
Bulk Loadout Unit 3 Line 1	Yes	B-372	12	1	77	2,000
Bulk Loadout Unit 3 Line 2	Yes	B-374	12	1	77	2,000
Bulk Loadout Unit 3 Airslide	Yes	B-382	86	1	77	5,000
Packhouse	Yes	B-621	40	1	77	12,000

ATTACHMENT TA-E05-H9

POLLUTANT POTENTIAL/ESTIMATED EMISSIONS COMMENT

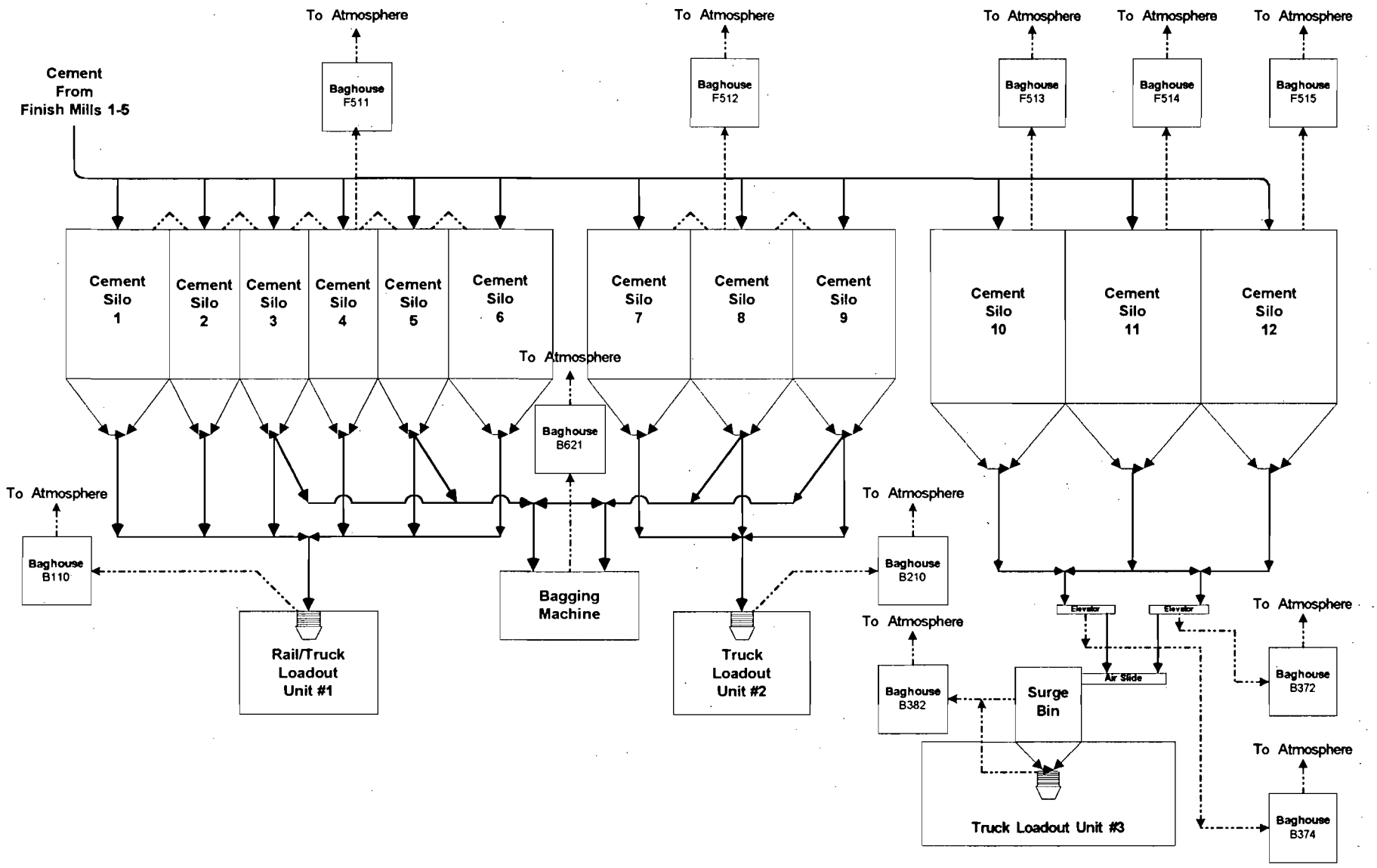
Table TA-E05-H9. Emission Pollutant Detail Information for Cement Storage, Packhouse & Loadout, Emission Unit 05, Tarmac America, Pennsuco

Source	Baghouse	Flow Rate (acfm)	Grain Loading (gr/acf)	Potential Emissions (lb/hr)	Potential Emissions (TPY)
Cement Silos 1-6	F-511	18,000	0.01	1.54	6.76
Cement Silos 7-9	F-512	10,000	0.01	0.86	3.75
Cement Silo 10	F-513	5,000	0.01	0.43	1.88
Cement Silo 11	F-514	5,000	0.01	0.43	1.88
Cement Silo 12	F-515	5,000	0.01	0.43	1.88
Bulk Loadout Unit 1	B-110	3,000	0.01	0.26	1.13
Bulk Loadout Unit 2	B-210	3,000	0.01	0.26	1.13
Bulk Loadout Unit 3 bucket elev.	B-372	2,000	0.01	0.17	0.75
Bulk Loadout Unit 3 bucket elev.	B-374	2,000	0.01	0.17	0.75
Bulk Loadout Unit 3	B-382	5,000	0.01	0.43	1.88
Packhouse (a)	B-621	12,000	0.01	1.00	4.40
Total				6.0	26.2

Notes:
(a) Emissions reflect permit limit.

ATTACHMENT TA-E05-L1

PROCESS FLOW DIAGRAM



Attachment TA-E12-L1
Process Flow Diagram
Tarmac America
Medley, FL

Process Flow Legend:
Solid / Liquid
Gas
Steam

Emission Unit: CEMENT STORAGE/LOADOUT/PACKIN

Filename: TAFDNEW1.VSD

Latest Revision Date: 6/27/98

Golder Associates

ATTACHMENT TA-E05-L3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

Table TA-E05-L3. Control Equipment Information for Cement Storage/Loadout , Emission Unit 05. Tarmac America, Pennsuco

Source ID	Baghouse ID	Manufacturer	Model No.	Number of Bags	Flow Rate (acfm)	Cloth Area (ft^2)	Air to Cloth Ratio
Cement Silos 1-6	F-511	Fuller	2 zone #78	156	18,000	1625	11.1
Cement Silos 7-9	F-512	Norblo	156 AMT	156	10,000	2142	4.7
Cement Silo 10	F-513	Mikropul	121S-10-20	121	5,000	1424	3.5
Cement Silo 11	F-514	Mikropul	121S-10-20	121	5,000	1424	3.5
Cement Silo 12	F-515	Mikropul	121S-10-20	121	5,000	1424	3.5
Bulk Loadout Unit 1	B-110	Norblo	120 AMT	120	3,000	1650	1.8
Bulk Loadout Unit 2	B-210	Norblo	120 AMT	120	3,000	1650	1.8
Bulk Loadout Unit 3 Line 1	B-372	Mikropul	36S-8-30-C	36	2,000	340	5.9
Bulk Loadout Unit 3 Line 2	B-374	Mikropul	36S-8-30-C	36	2,000	340	5.9
Bulk Loadout Unit 3 Airslide	B-382	Mikropul	121S-10-20	121	5,000	1424	3.5
Packhouse	B-621	Fuller	2 zone #78	156	12,000	1632	7.4

ATTACHMENT A

ATTACHMENT A

1.0 INTRODUCTION

Tarmac America, Inc. (Tarmac) currently operates a Portland cement plant located in Medley, Florida, near Miami. The plant is named the Pennsuco cement plant. The existing cement plant consists of three wet process cement kilns, three coolers, clinker handling system and storage silos, four finish mills, cement handling system and storage silos, a cement rail/truck loadout facility, and a packhouse. Raw materials for the process, consisting of limestone, iron ore and gypsum, are delivered to the facility from an adjacent limestone quarry and by rail. The raw materials are combined in the proper proportions to create in the wet, raw feed to the kilns.

The raw feed is fed to the kilns, which utilize coal, petcoke, No. 6 and No. 2 fuel oil, used oil or natural gas to provide the heat for calcination. The resulting cement clinker passes through the clinker cooler, and then is stored in silos. The clinker then is processed through the finish mill, where it is combined with about 6% gypsum to form the finished cement product. The cement is stored in silos, and then shipped via truck or rail, or packed into bags. The current capacity of the Pennsuco plant is 963,600 tons per year (TPY) of clinker, which represents the permitted clinker production rate for Kilns No. 2 and 3. Kiln No. 1 is currently inoperative. This clinker production translates to approximately 1,021,416 TPY of cement (@ 6% gypsum).

Current pollution control equipment consists of electrostatic precipitators (ESPs) controlling particulate matter (PM) emissions from the kilns, baghouses controlling PM emissions from the coolers, and baghouses controlling PM emissions from other material handling sources, including the coal mill.

Tarmac is proposing to modernize its existing Pennsuco facility. The modernization will consist of the following:

1. Removal of wet process Kilns Nos. 1-3
2. Removal of Clinker Coolers Nos. 1-3
3. Removal of dust Insufflation System
4. Addition of a single dry process raw mill and preheater/calciner/kiln system (pyroprocessing system)
5. Addition of a new Clinker Cooler
6. Addition of a new Finish Mill

7. Replacement of Coal Mill System

The above modifications will allow Tarmac to convert their existing wet process facility to a dry process facility. The total clinker production capacity of the new system will be 1,240,000 TPY, equivalent to about 1,314,400 TPY finished cement.

2.0 PROJECT DESCRIPTION

2.1 PROCESS DESCRIPTION

Tarmac is requesting an air construction permit for a new dry process raw mill, preheater/calciner/kiln, a cooler, a coal mill, and a finish mill. The proposed dry process preheater/calciner/kiln (pyroprocessing system), cooler, raw mill, and coal mill will replace the existing kilns, coolers, raw mill, and coal mill. The proposed finish mill will be an addition to the four existing finish mills. The existing clinker handling and storage system, cement handling and storage system, cement rail/truck loadout system, and packhouse will continue to be utilized.

Flow diagrams of the new process, as integrated with the existing equipment, are presented in the attached permit application form. The proposed raw mill system consists of a vertical roller mill capable of grinding up to 265 TPH (tons per hour) of raw feed (limestone and fly ash). The raw mill will use hot preheater and cooler gases to dry the material from a feed moisture of 12 % to a moisture of less than 1%. An auxiliary air heater is provided at the raw mill to provide additional heat for drying. The maximum heat input to the heater is 88 MMBtu/hr.

The raw mill is vented to cyclones and then to the main plant dust collector (baghouse) to remove entrained product. The product from the cyclones and dust collector is combined and conveyed to the storage and blending silo, while the cleaned gas is vented to the atmosphere through the plant common stack.

The proposed pyroprocessing system will be capable of producing up to 160 TPH of clinker, and 1,240,000 TPY of clinker. The raw feed is introduced to the five-stage preheater/calciner from the raw mill. The feed is preheated in the first four stages using hot gases from the calciner/kiln. The fifth stage is the calciner, where fuel is burned to achieve approximately 90% of the total material calcination. The maximum heat input to the calciner is 252 MMBtu/hr. The calcinated feed then

enters the kiln, where the remaining calcination takes place. Maximum heat input to the kiln is 228 MMBtu/hr.

The calciner exit gas is recycled to the raw and coal mills. The rotary kiln delivers hot clinker at approximately 1450 degrees Celsius to the cooler.

The proposed controlled flow grate cooler utilizes fans to force ambient air through the hot clinker bed to cool the hot clinker to 65 degrees Celsius above the ambient temperature. Combustion air required in the kiln and calciner is obtained from the cooler exhaust gases, while the rest of the gas is passed through cyclones to remove entrained clinker dust before recycle of the gases to the raw mill.

The existing rail delivery system for coal, consisting of a rail dump operation, temporary and active coal storage piles, and coal hopper, will be used for the new plant. Petroleum coke will also be utilized as fuel, and will be handled in the same manner as coal. The proposed coal mill system will consist of a Fuller coal mill, which will grind up to 23 TPH of coal, a conveyor, two feed bins, and two storage bins, one for the kiln fuel and one for the calciner fuel. The raw lump coal/petcoke is fed to the dump hopper by front end loader, and then conveyed to the mill feed bins, and then fed to the coal mill where the coal/petcoke is ground and dried by hot preheater gas. The exhaust gases from the mill exits to a baghouse dust collector. The entrained coal/petcoke dust is removed in the dust collector and the cleaned gas is vented to the atmosphere via the plant common stack. The coal/ petcoke is then transferred to storage bins. From the storage bins, the fuel is pneumatically conveyed to the kiln and calciner burners.

The proposed Finish Mill No. 5 will be capable of processing up to 120 TPH of finished cement. The clinker will be conveyed to the new finish mill, where gypsum will be added. The ground cement product will then be sent to the cement separator, cooled and pumped to storage silos. The existing four finish mills will also be utilized in this same capacity.

In addition to the above modifications, Tarmac will remove the existing Kiln Nos. 1-3, Cooler Nos. 1-3, the dust insufflation system. Tarmac will surrender operating permits for these units upon commencement of operation of the proposed equipment.

Blast furnace slag will continue to be processed through the slag dryer and finish mills at the facility, at up to 300,000 TPY based on the current construction permit for this process.

2.2 FUEL REQUIREMENTS

Fuel requirements for the new pyroprocessing equipment and raw mill air heater total 568 MMBtu/hr. The plant will utilize coal, petroleum coke, No. 6 fuel oil, and natural gas as needed to supply this heat. Maximum fuel usage rates are presented in Table 2-1.

2.3 AIR EMISSIONS

Air emissions for criteria air pollutants were provided by manufacturer's information. Emission factors and resulting annual air emissions for criteria pollutants are shown in Table 2-2. The PM emissions include total PM emissions from the plant common stack, which consists of raw mill, preheater/calciner/ kiln gas, as well as exhaust gases from the coal mill. Likewise, emissions of other pollutants represent total emissions from the plant common stack.

Estimated emissions of hazardous air pollutants (HAPs) from the new system are presented in Table 2-3. The emission factors are based on the highest factor from either actual source testing conducted on Kiln No. 3 at Pennsuco, or EPA Publication AP-42. Refer to Appendix A for emission factors.

3.0 SOURCE APPLICABILITY

3.1 NEW SOURCE PERFORMANCE STANDARDS

The proposed kiln, cooler, raw mill, finish mills, clinker handling and storage system, and cement storage/packhouse/loadout system is subject to 40 CFR 60, Subpart F, New Source Performance Standards for Portland Cement Plants. 40 CFR 60, Subpart F states that, particulate emissions for kilns and coolers shall not exceed 0.30 lb/ton dry kiln feed and 0.10 lb/ton dry kiln feed, respectively. Subpart F also limits the opacity for kilns and coolers to 20 percent and 10 %, respectively.

The proposed coal handling system is subject to 40 CFR 60, Subpart Y, New Source Performance Standards for Coal Preparation Plants. 40 CFR 60, Subpart Y states that, the opacity shall not exceed 20 percent for coal processing, conveying, storage, transfer, and loading systems.

3.2 FLORIDA EMISSION STANDARDS

The State of Florida emission limiting standards potentially applicable to the proposed Portland cement plant modernization are contained in Florida Administrative Code, Rules 62-296.407 and 62-296.701. Paragraph (1) of Rule 62-296.407 applies to existing kilns and coolers, therefore paragraph (1) does not apply to the proposed project. Paragraph (2) limits particulate matter emissions to 0.3 lb/ton of feed for new kilns and 0.1 lb/ton of feed for new coolers. Paragraph (3) states that the test method for particulate emissions shall be EPA Method 5. The proposed project is not located in a particulate matter air quality maintenance area or in the area of influence of such an air quality maintenance area, therefore Rule 62-296.701 does not apply.

3.3 MODIFICATION/PREVENTION OF SIGNIFICANT DETERIORATION (PSD) REVIEW

3.3.1 REQUIREMENTS

Federal PSD requirements are contained in Title 40, Code of Federal Regulations (CFR), Part 52.21, Prevention of Significant Deterioration of Air Quality. The State of Florida has adopted PSD regulations (Chapter 62-212.400, F.A.C.) that essentially are identical to the federal regulations. PSD regulations require that all new major stationary sources or major modifications to existing major sources of air pollutants regulated under CAA be reviewed and a construction permit issued. Florida's State Implementation Plan (SIP), which contains PSD regulations, has been approved by EPA and PSD approval authority in Florida has been granted to FDEP.

A "major facility" is defined under Florida PSD regulations as any one of 28 named source categories that has the potential to emit 100 tons per year (TPY) or more of any pollutant regulated under the CAA, or any other stationary facility that has the potential to emit 250 TPY or more of any pollutant regulated under CAA. A "source" is defined as an identifiable piece of process equipment or emissions unit. "Potential to emit" means the capability, at maximum design capacity, to emit a pollutant, considering the application of control equipment and any other federally enforceable limitations on the source's capacity. A "major modification" is defined under PSD regulations as a change at an existing major stationary facility that increases emissions by greater than significant amounts. PSD significant emission rates are shown in Table 3-1.

3.3.2 PSD APPLICABILITY

The net change in emissions due to the proposed project is based on the increase in emissions associated with the new emissions units and the decrease in emissions associated with the shutdown of existing equipment. The increase in emissions due to the proposed raw mill and pyroprocessing equipment was presented in Table 2-2. The PSD baseline emissions for the existing kilns at Pennsuco, based on the last two years of operation (1996-1997), are shown in Table 3-2. These emissions are based primarily on actual stack test data for the kilns at Pennsuco, and actual hours of operation and production rates.

PSD baseline emissions for material handling sources at Pennsuco which will be affected by this project are shown in Table 3-3. These include the existing coal handling system, coolers and dust insufflation system, all which will be shutdown. Also, the clinker handling and storage system, finish mill system, cement handling and storage system and cement distribution facilities will all be affected due to the potential increase in throughput. Dust loadings for the existing baghouses are based on the manufacturer's estimate of 0.01 gr/acf. Emissions are based on the design air flow, outlet dust loading, and actual hours of operation. Future maximum potential emissions for the material handling sources are shown in Table 3-4.

The slag dryer at Pennsuco is currently under a construction permit. Since it just recently started operations, its PSD baseline and future emissions are equivalent to its allowable or potential emissions. These emission are shown in Table 3-5.

Fugitive dust emissions from several sources at Pennsuco will be affected by the proposed project. These include the following:

* The coal handling system, since the throughput of coal will potentially increase with the new plant;
* The existing raw material blend system, in which limestone and fly ash are blended together in open piles and transported to the raw feed system via front end loader. This system will no longer be utilized; and
* The dust insufflation system, where in waste kiln dust is currently transported via truck to a storage pile located a distance away from the kiln. This system will no longer be utilized, since the new system will not have a dust insufflation system.

Estimated fugitive dust emissions from these sources are summarized in Table 3-6. Detailed calculations are presented in Appendix B.

The PSD source applicability analysis is presented in Table 3-7. As shown, the net change in emissions of all PSD regulated pollutants is below the PSD significant emission rate. As a result, the proposed project is not subject to PSD review.

Table 2-1. Maximum Fuel Usage and Heat Input Rates, Tarmac Florida Cement Plant

Fuel	Maximum Heat Input (MMBtu/hr)	Fuel Firing Rate	
		Maximum Hourly (a)	Maximum Annual Average (b)
Coal	568	22.72 tons/hr	176,080 TPY
Petroleum coke	568	20.29 tons/hr	157,214 TPY
No. 6 Fuel Oil	568	3,737 gal/hr	28,960,525 gal/yr
Natural gas	568	568,000 scf/hr	4,402 MMscf/yr
No. 2 Fuel Oil	568	4,092 gal/hr	31,714,697 gal/yr

(a) Based on 160 TPH clinker production.
(b) Based on 1,240,000 TPY clinker production.
Notes:

Fuels may be burned in combination, not to exceed total heat input.
Based on fuel heating values as follows:

Coal - 12,500 Btu/lb
Petroleum coke - 14,000 Btu/lb
No. 2 Fuel Oil - 138,800 Btu/gal
Natural gas - 1,000 Btu/scf
No. 6 Fuel Oil - 152,000 Btu/gal

Table 2-2. Maximum Annual Emissions From New Raw Mill/Preheater/Calciner/Kiln System, Tarmac Pennsuco

Pollutant	Emission Factor		Reference	Activity Factor (a)		Maximum Annual Emissions (tons/yr)
Particulate Matter (TSP)	0.33	lb/ton clinker	1 0.2	1,240,000	TPY clinker	204.60
Particulate Matter (PM10)	85	% of PM	2 0.17	--		173.91
Sulfur dioxide	1.30	lb/ton clinker	1 2.23	1,240,000	TPY clinker	806.00
Nitrogen Oxides	3.15	lb/ton clinker	1 4.9	1,240,000	TPY clinker	1,953.00
Carbon monoxide	2.35	lb/ton clinker	1 3.01	1,240,000	TPY clinker	1,457.00
Volatile Organic Compounds	0.12	lb/ton clinker	1 0.1	1,240,000	TPY clinker	74.40
Sulfuric acid mist	0.014	lb/ton clinker	1 0.014	1,240,000	TPY clinker	8.68
Lead	7.50E-05	lb/ton clinker	1	1,240,000	TPY clinker	0.047
Mercury	2.40E-05	lb/ton clinker	1	1,240,000	TPY clinker	0.015

References:
1. Based on vendor design information.
2. From AP-42, for kiln with baghouse control, Section

Table 2-3. Estimated Potential Emissions of HAPs from New Cement Plant, Tarmac Pennsuco

Hazardous Air Pollutant	Emission Factor (lb/ton of clinker)	Ref.	Maximum Clinker Production (c) (TPY)	Potential Emissions (TPY)
Inorganics/Metals				
Antimony	1.00E-05	1	1,240,000	0.0062
Arsenic	1.3E-05	2	1,240,000	0.0081
Beryllium	6.6E-07	2	1,240,000	0.0004
Cadmium	8.3E-06	2	1,240,000	0.0051
Chromium	7.7E-06	2	1,240,000	0.0048
Hydrogen Chloride	4.9E-02	2	1,240,000	30.3800
Lead	7.1E-04	2	1,240,000	0.4402
Manganese	8.6E-04	2	1,240,000	0.5332
Mercury	2.2E-04	2	1,240,000	0.1364
Nickel	--	1	1,240,000	--
Selenium	1.5E-04	2	1,240,000	0.0930
Organics				
Benzene	3.1E-03	2	1,240,000	1.9220
Biphenyl	6.1E-06	2	1,240,000	0.0038
Bis(2-ethylhexyl)phthalate	9.5E-05	2	1,240,000	0.0589
Bromomethane	4.3E-05	2	1,240,000	0.0267
Carbon disulfide	1.1E-04	2	1,240,000	0.0682
Chlorobenzene	1.6E-05	2	1,240,000	0.0099
Chloromethane	3.8E-04	2	1,240,000	0.2356
Chloroform	2.66E-04	1	1,240,000	0.1649
Dibenzofuran	9.64E-04	1	1,240,000	0.5977
Di-n-Butyl-Phthlate	4.1E-05	2	1,240,000	0.0254
1,4 Dichlorobenzene	1.63E-05	1	1,240,000	0.0101
Dioxins/Furans	2.9E-10	2	1,240,000	1.80E-07
Ethylbenzene	1.9E-05	2	1,240,000	0.0118
Formaldehyde	4.6E-04	2	1,240,000	0.2852
Methyl ethyl ketone	3.0E-05	2	1,240,000	0.0186
Methylene Chloride	4.9E-04	2	1,240,000	0.3038
Nitrobenzene	2.68E-05	1	1,240,000	0.0166
Napthalene	1.7E-03	2	1,240,000	1.0540
4-Nitrolphenol	9.20E-05	1	1,240,000	0.0570
Phenol	1.1E-04	2	1,240,000	0.0682
Styrene	1.5E-06	2	1,240,000	0.0009
Toulene	1.9E-04	2	1,240,000	0.1178
2,4,6-Trichlorophenol	1.06E-04	1	1,240,000	0.0657
Xylene	1.3E-04	2	1,240,000	0.0806
TOTAL HAPs				36.81

(1) Based on maximum individual test run from testing of Kiln No. 3 in August and December 1992.
(2) Based on AP-42 factor.

Table 3-1. PSD Significant Emission Rates and *De Minimis* Monitoring Concentrations

Pollutant	Regulated Under	Significant Emission Rate (TPY)	*De Minimis* Monitoring Concentration (g/m^3)
Sulfur Dioxide	NAAQS, NSPS	40	13, 24-hour
Particulate Matter (TSP)	NSPS	25	NA
Particulate Matter (PM10)	NAAQS	15	10, 24-hour
Nitrogen Oxides	NAAQS, NSPS	40	14, annual
Carbon Monoxide	NAAQS, NSPS	100	575, 8-hour
Volatile Organic Compounds (Ozone)	NAAQS, NSPS	40	100 TPY[a]
Lead	NAAQS	0.6	0.1, 3-month
Sulfuric Acid Mist	NSPS	7	NM
Total Fluorides	NSPS	3	0.25, 24-hour
Mercury	NESHAP	0.1	0.25, 24-hour
Total Reduced Sulfur	NSPS	10	10, 1-hour
Reduced Sulfur Compounds	NSPS	10	10, 1-hour
Hydrogen Sulfide	NSPS	10	0.2, 1-hour
MWC Organics (as dioxin/furan)	NSPS	3.5×10^{-6}	NA
MWC Metals (as PM)	NSPS	15	NA
MWC Acid Gases (as SO_2+HCl)	NSPS	40	NA
MSW Landfill Emissions (as NMVOC)	NSPS	50	NA

Note: Ambient monitoring requirements for any pollutant may be exempted if the impact of the increase in emissions is below *de minimis* monitoring concentrations.

MWC = Municipal waste combustor
MSW = Municipal solid waste
NA = Not Applicable
NAAQS = National Ambient Air Quality Standards
NESHAP = National Emission Standards for Hazardous Air Pollutants
NM = No ambient measurement method
NMVOC = Non-methane volatile organic compounds
NSPS = New Source Performance Standards
PM10 = particulate matter with aerodynamic diameter less than or equal to 10 micrometers
PSD = prevention of significant deterioration
TPY = tons per year
TSP = total suspended particulate matter
g/m^3 = micrograms per cubic meter

[a] No *de minimis* concentration; an increase in VOC emissions of 100 TPY or more will require monitoring analysis for ozone.

Source: F.A.C., Rule 62-212.400, Tables 212.400-2 and 212.400-3.

Table 3-2. Annual Baseline 1996-1997 Emissions From Kilns, Tarmac Pennsuco

Pollutant	Emission Factor		Reference	Activity Factor (a)		Baseline Emissions (tons/yr)
			Kiln No. 2			
Particulate Matter (TSP)	8.67	lb/hr	1	7,646.5	hr/yr	33.15
Particulate Matter (PM10)	85	% of PM	2	--		28.18
Sulfur dioxide	3.76	lb/hr	1	7,646.5	hr/yr	14.38
Nitrogen Oxides	113.8	lb/hr	3	7,646.5	hr/yr	435.09
Carbon monoxide	13.77	lb/hr	1	7,646.5	hr/yr	52.65
Volatile Organic Compounds	1.84	lb/hr	1	7,646.5	hr/yr	7.03
Sulfuric acid mist	0.16	lb/hr	4	7,646.5	hr/yr	0.61
Lead	9.20E-05	lb/ton clinker	5	164,619	tons clinker	0.0076
Mercury	5.57E-05	lb/ton clinker	5	164,619	tons clinker	0.0046
			Kiln No. 3			
Particulate Matter (TSP)	28.88	lb/hr	6	7,756.0	hr/yr	112.01
Particulate Matter (PM10)	85	% of PM	2	--		95.21
Sulfur dioxide	360.95	lb/hr	6	7,756.0	hr/yr	1,399.76
Nitrogen Oxides	473.45	lb/hr	6	7,756.0	hr/yr	1,836.06
Carbon monoxide	338.38	lb/hr	7	7,756.0	hr/yr	1,312.25
Volatile Organic Compounds	31.75	lb/hr	7	7,756.0	hr/yr	123.13
Sulfuric acid mist	66.16	lb/hr	8	7,756.0	hr/yr	256.58
Lead	9.20E-05	lb/ton clinker	5	673,096	tons clinker	0.0310
Mercury	5.57E-05	lb/ton clinker	5	673,096	tons clinker	0.0187

(a) Based on average of 1996-1997 actual operation.
(b) Below detectable limit.

References:
1. Based on average of 12/11/95 and 4/16/97 compliance tests for Kiln No. 2.
2. From AP-42, for kiln with ESP control, Section 11.6.
3. Based on permit limit for Kiln No. 2, since actual emission have been in excess of this limit.
4. Based on average of 4/16/97 compliance tests for Kiln No. 2.
5. Based on source testing of Kiln No. 3 on January 10, 1992.
6. Based on average of all source tests on Kiln No. 3 during the period Janaury 1996 through December 1997.
7. Based on source test conducted on 11/22/94 on Kiln No.3.
8. Based on source tests conducted on 11/22/94 and 12/12/95 on Kiln No. 3.

The only decrease in the coal handling system are dust emulation system

Table 3-3. Annual 1996-1997 Baseline Emissions From Material Handling Point Sources, Tarmac Pennsuco

Emission Source	Point ID	Baghouse ID	Emission Basis	Emission Factor	Activity Factor (a)	Baseline PM/PM10 Emissions (tons/yr)
Coal Handling System	003	G-509, G-521, G-527, G-576 G-578, G-580, G-582	0.01 gr/acf; 50,000 acfm	4.29 lb/hr	7,756.0 hr/yr	16.62
Cooler No. 2	005	K-232	Stack Tests (b)	16.15 lb/hr	7,646.5 hr/yr	61.75
Cooler No. 3	007	K-332	Stack Tests (b)	9.32 lb/hr	7,756.0 hr/yr	36.14
Dust Insufflation System - Kiln 2	--	K-181	0.01 gr/acf; 3,000 acfm	0.26 lb/hr	7,646.5 hr/yr	0.98
Dust Insufflation System - Kiln 3	--	K-383, K-396	0.01 gr/acf; 10,000 acfm	0.86 lb/hr	7,756.0 hr/yr	3.32
Clinker Handling/Stg - Kilns 1 & 2 Silos 1, 2, 4, 5, 11 and 12	008	K-147, K-247 (c)	0.01 gr/acf; 3,000 acfm	0.26 lb/hr	7,646.5 hr/yr	0.98
Clinker Handling/Stg - Kiln 3 Silos 1, 4, 11, 17-23, 26-28	009	K-347, K-447, K-521, K-522, K-633 (d)	0.01 gr/acf; 9,500 acfm	0.81 lb/hr	7,756.0 hr/yr	3.16
Finish Mill No. 1	010	F-130, F-113	0.01 gr/acf; 23,800 acfm	2.04 lb/hr	4,881.0 hr/yr	4.98
Finish Mill No. 2	011	F-230, F-213	0.01 gr/acf; 23,800 acfm	2.04 lb/hr	6,072.5 hr/yr	6.19
Finish Mill No. 3	012	F-313, F-330, F-332	0.01 gr/acf; 41,500 acfm	3.56 lb/hr	4,546.0 hr/yr	8.09
Finish Mill No. 4	013	F-430, F-432, F-603, F-604, F-605	0.01 gr/acf; 67,000 acfm	5.74 lb/hr	3,876.0 hr/yr	11.13
Cement Silos #1-#12	014	F-511, F-512, F-513, F-514, F-515	0.01 gr/acf; 43,000 acfm	3.69 lb/hr	6,072.5 hr/yr	11.19
Cement Distribution-Rail/Truck	015	B-110, B-210, B-372, B-374, B-382	0.01 gr/acf; 15,000 acfm	1.29 lb/hr	2,721.5 hr/yr	1.75
Cement Distribution-Packhouse	016	B-621	0.01 gr/acf; 12,000 acfm	1.03 lb/hr	3,080.5 hr/yr	1.58
					TOTAL	167.87

(a) Based on average of 1996-1997 actual operation.
(b) Based on average of April 1997 and December 1997 stack tests.
(c) Only one baghouse operates at any one time.
(d) K-347 and K-447 do not operate at the same time.

This should not be counted since there is no a increase, only the coal mill

Table 3-4. Future Maximum Annual Emissions From Material Handling Point Sources, Tarmac Pennsuco

Emission Source	Point ID	Baghouse ID	Emission Basis	Emission Factor	Activity Factor (a)	Future PM/PM10 Emissions (tons/yr)
Coal Handling/Coal Mill System	003	3 baghouses	0.01 gr/acf; 31,700 acfm	2.72 lb/hr	8,760 hr/yr	11.90
Clinker Handling/Stg - Silos 1, 2, 4, 5, 11 and 12	008	K-147, K-247 (b)	0.01 gr/acf; 3,000 acfm	0.26 lb/hr	8,760 hr/yr	1.13
Clinker Handling/Stg - Silos 1, 4, 11, 17-23, 26-28	009	K-347, K-447, K-521, K-522, K-633 (c)	0.01 gr/acf; 9,500 acfm	0.81 lb/hr	8,760 hr/yr	3.57
Finish Mill No. 1	010	F-130, F-113	0.01 gr/acf; 23,800 acfm	2.04 lb/hr	8,760 hr/yr	8.94
Finish Mill No. 2	011	F-230, F-213	0.01 gr/acf; 23,800 acfm	2.04 lb/hr	8,760 hr/yr	8.94
Finish Mill No. 3	012	F-313, F-330, F-332	0.01 gr/acf; 41,500 acfm	3.56 lb/hr	8,760 hr/yr	15.58
Finish Mill No. 4	013	F-430, F-432, F-603, F-604, F-605	0.01 gr/acf; 67,000 acfm	5.74 lb/hr	8,760 hr/yr	25.15
Finish Mill No. 5	--	5 baghouses	0.01 gr/acf; 64,320 acfm	5.51 lb/hr	8,760 hr/yr	24.15
Cement Silos #1-#12	014	F-511, F-512, F-513, F-514, F-515	0.01 gr/acf; 43,000 acfm	3.69 lb/hr	8,760 hr/yr	16.14
Cement Distribution-Rail/Truck	015	B-110, B-210, B-372, B-374, B-382	0.01 gr/acf; 15,000 acfm	1.29 lb/hr	8,760 hr/yr	5.63
Cement Distribution-Packhouse	016	B-621	0.01 gr/acf; 12,000 acfm	1.03 lb/hr	8,760 hr/yr	4.51
					TOTA	125.63

(a) Based on continuous operation of all sources.
(b) Only one baghouse operates at any one time.
(c) K-347 and K-447 do not operate at the same time.

Table 3-5. Maximum Emissions From Slag Dryer, Tarmac America

Parameter	No. 2 Fuel Oil	Natural Gas
OPERATING DATA[a]		
Operating Time	3,120 hr/yr	3,120 hr/yr
Heat Input Rate	57.48 MMBtu/hr	57.48 MMBtu/hr
Heat Value	140,000 MMBtu/gal	1000 Btu/scf
Hourly Fuel Use	410.6 gal/hr	57,480 scf/hr
Annual Fuel Use	1,280,983 gal/yr	179.34 MMscf/yr
Max Sulfur Content	0.2 Wt%	0.01 gr/scf

	Fuel Oil			Natural Gas		
		Maximum Emissions			Maximum Emissions	
Pollutant	Emission Factor [b]	lb/hr	TPY	Emission Factor [b]	lb/hr	TPY
EMISSION DATA						
PM/PM10	0.02 gr/dscf; 34,100 dscfm	5.85	9.12	0.02 gr/dscf; 34,100 dscfm	5.85	9.12
SO2	142*S lb/Mgal[c]	11.66	18.19	0.60 lb/MMscf	0.034	0.054
NOx	20 lb/Mgal	8.21	12.81	140.00 lb/MMscf	8.05	12.55
CO	5 lb/Mgal	2.05	3.20	35.00 lb/MMscf	2.01	3.14
NMVOC	0.2 lb/Mgal	0.082	0.13	3.83 lb/MMscf	0.22	0.34
Sulfuric Acid Mist	0.1225 lb/Mgal	0.050	0.08	NA	--	--
Lead-Total	8.9E-06 lb/MMBtu	5.12E-04	7.98E-04	NA	--	--
Mercury	3.0E-06 lb/MMBtu	1.72E-04	2.69E-04	NA	--	--
Beryllium	2.5E-06 lb/MMBtu	1.44E-04	2.24E-04	NA	--	--

Note: NA = not applicable.

[a] Fuel oil use is based on 140,000 Btu/gal for 0.2% S oil. Heat Input Rate is based on 0.48 MMBtu/ton and 150 ton/hr throughput

[b] Emission factors are based on AP-42 5th Edition, Tables 1.3-2, 1.3-4, and 1.3-11 for oil use and and 1.4-1 and 1.4-3 for gas. NMVOC factor for gas is reduced by 34% to reflect presence of methane.

[c] "S" denotes the weight % sulfur in fuel oil; max sulfur content = 0.2%

Revise and compare with spreadsheet

Table 3-6. Summary of Quantifiable Fugitive Emissions, Tarmac America

Source	Estimated Annual Emissions (TPY)		Estimated Hourly Emissions (lb/hr) (a)	
	PM	PM10	PM	PM10
Existing Cement Plant				
Coal Handling Facilities-Batch Drop	0.28	0.10	0.27	0.09
Coal Handling Facilities-Vehicular Traffic	23.97	8.39	23.05	8.07
Raw Materials Blending-Batch Drop	3.52	1.23	3.39	1.19
Raw Materials Blending-Vehicular Traffic	14.34	5.02	13.79	4.83
Insufflation Area-Batch Drop	0.22	0.08	0.21	0.07
Insufflation Area-Vehicular Traffic	1.63	0.57	1.57	0.55
Total	43.96	15.39	42.27	14.79
Proposed Cement Plant				
Coal Handling Facilities-Batch Drop	0.29	0.10	0.28	0.10
Coal Handling Facilities-Vehicular Traffic	25.45	8.91	24.47	8.56
Total	25.74	9.01	24.75	8.66
Fugitive Sources Emissions Credit	18.22	6.38	17.52	6.13

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Notes:
(a) Based on average hourly emissions assuming 2,080 hr/yr actual operation.

Table 3-7. Net Change in Emissions and PSD Significant Emission Rates, Tarmac Cement Plant Modification

Pollutant	Pre-Modification Actuals						Post-Modification Potential					Net Increase In Emissions (TPY)	PSD Significant Emission Rate (TPY)	PSD Review Applies?
	Kiln No. 2	Kiln No. 3	Material Handling Point Sources	Slag Dryer	Material Handling Fugitive Sources	Total	New Raw Mil Preheater/ Calciner/Kiln/ Cooler	Material Handling Point Sources	Slag Dryer	Material Handling Fugitive Sources	Total			
Particulate Matter [PM(TSP)]	33.15	112.01	167.87	9.12	43.96	366.11	204.60	125.63	9.12	25.74	365.09	-1.02	25	No
Particulate Matter (PM10)	28.18	95.21	167.87	9.12	15.39	315.76	173.91	125.63	9.12	9.01	317.67	1.90	15	No
Sulfur Dioxide	14.38	1,399.76	--	18.19	--	1,432.33	806.00	--	18.19	--	824.19	-608.14	40	No
Nitrogen Dioxide	435.09	1,836.06	--	12.81	--	2,283.95	1,953.00	--	12.81	--	1,965.81	-318.14	40	No
Carbon Monoxide	52.65	1,312.25	--	3.20	--	1,368.10	1,457.00	--	3.20	--	1,460.20	92.10	100	No
Votatile Organic Compounds	7.03	123.13	--	0.34	--	130.50	74.40	--	0.34	--	74.74	-55.76	40	No
Sulfuric Acid Mist	0.61	256.58	--	0.078	--	257.27	8.68	--	0.078	--	8.76	-248.51	7	No
Lead	0.00757	0.03096	--	0.00080	--	0.0393	0.04650	--	0.00080	--	0.0473	0.008	0.6	No
Mercury	0.00458	0.01875	--	0.00027	--	0.0236	0.01488	--	0.00027	--	0.0151	-0.00845	0.1	No

NEG = Negligible.

APPENDIX A

Emission Factors

Table C-4. Summary of Maximum Emissions from Tarmac Kilns No. 2 and 3
DCRRF Ash Test Conditions.

Pollutant Name	Maximum - Kiln 3 (lb/hr)	Maximum - Kiln 3 (lb/ton)	Kiln 2* (lb/hr)
Semi Volatile Organic Compounds			
Phenol	0.0771	9.00E-04	0.02249
2-Chlorophenol	0.0216	2.52E-04	0.00630
Benzyl Alcohol	0.0209	2.40E-04	0.00601
1,3 Dichlorobenzene	0.0016	1.87E-05	0.00047
1,4 Dichlorobenzene	0.0014	1.63E-05	0.00041
1,2 Dichlorobenzene	0.0022	2.57E-05	0.00064
2-Methylphenol	0.0043	5.02E-05	0.00125
4-Methylphenol	0.0090	1.03E-04	0.00259
Nitrobenzene	0.0023	2.68E-05	0.00067
2-Nitrophenol	0.0119	1.37E-04	0.00342
Benzoic Acid	0.1587	1.85E-03	0.04630
2,4-Dichlorophenol	0.0247	2.88E-04	0.00721
Napthalene	0.3175	3.70E-03	0.09262
2-Methyl Napthalene	0.0545	6.36E-04	0.01590
2,4,6-Trichlorophenol	0.0091	1.06E-04	0.00265
Acenapthalene	0.0171	2.00E-04	0.00499
4-Nitrophenol	0.0080	9.20E-05	0.00230
Dibenzofuran	0.0826	9.64E-04	0.02410
Flourene	0.0104	1.21E-04	0.00303
N-Nitrosodiphenylamine	0.0220	2.57E-04	0.00642
Phenanthrene	0.0934	1.09E-03	0.02725
Anthracene	0.0045	5.17E-05	0.00129
Di-n-Butyl-Phthlate	0.0022	2.53E-05	0.00063
Flouranthene	0.0156	1.82E-04	0.00455
Pyrene	0.0060	7.00E-05	0.00175
bis(2-Ethylhexyl)Phthalate	0.2181	2.54E-03	0.06362
Chrysene	0.0034	3.97E-05	0.00099
Volatile Organic Compounds			
Acetone	0.3694	4.31E-03	0.10776
Methylene Chloride	0.0007	8.05E-06	0.00020
2-Butanone	0.0882	1.03E-03	0.02573
Chloroform	0.0228	2.66E-04	0.00665
Benzene	1.5340	1.76E-02	0.44080
Toulene	0.4342	4.99E-03	0.12477
Chlorobenzene	0.0456	5.32E-04	0.01330
Ethylbenzene	0.2250	2.63E-03	0.06564
Xylene	0.2067	2.41E-03	0.06030
Styrene	0.0792	9.10E-04	0.02276

Pollutant Name	Maximum - Kiln 3 (lb/hr)	Maximum - Kiln 3 (lb/ton)	Kiln 2* (lb/hr)
Regulated Pollutants			
Beryllium	0.00035	4.02E-06	0.00010
Lead	0.011	1.26E-04	0.00316
Mercury	0.0264	3.01E-04	0.00753
Non-Regulated Pollutants			
HCl	186.42	2.18	54.38
Antimony	0.0009	1.05E-05	0.00026
Arsenic	0.00069	7.93E-06	0.00020
Barium	0.009	1.03E-04	0.00259
Cadmium	0.0005	5.74E-06	0.00014
Chromium	0.069	7.93E-04	0.01983
Copper	0.007	8.05E-05	0.00201
Iron	0.15	1.72E-03	0.04310
Manganese	0.0197	2.30E-04	0.00575
Nickel	0.0098	1.14E-04	0.00286
Selenium	0.0031	3.62E-05	0.00090
Silver	0.0002	2.41E-06	6.03E-05
Thallium	0.0022	2.57E-05	0.00064
Vanadium	0.006	6.90E-05	0.00172
Zinc	0.045	5.17E-04	0.01293
Phosphorus	7.0E-06	8.05E-08	2.01E-06
Dioxins/Furans:			
Total	1.81E-04	2.09E-06	5.23E-05
TEF	1.08E-06	1.25E-08	3.13E-07

* Based on emission factor (lb/ton) for Kiln 3 and maximum clinker capacity for Kiln 2 of 25.0 TPH.

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11.6 Portland Cement Manufacturing

11.6.1 Process Description[1-7]

Portland cement is a fine powder, gray or white in color, that consists of a mixture of hydraulic cement materials comprising primarily calcium silicates, aluminates and aluminoferrites. More than 30 raw materials are known to be used in the manufacture of portland cement, and these materials can be divided into four distinct categories: calcareous, siliceous, argillaceous, and ferrifrous. These materials are chemically combined through pyroprocessing and subjected to subsequent mechanical processing operations to form gray and white portland cement. Gray portland cement is used for structural applications and is the more common type of cement produced. White portland cement has lower iron and manganese contents than gray portland cement and is used primarily for decorative purposes. Portland cement manufacturing plants are part of hydraulic cement manufacturing, which also includes natural, masonry, and pozzolanic cement. The six-digit Source Classification Code (SCC) for portland cement plants with wet process kilns is 3-05-006, and the six-digit SCC for plants with dry process kilns is 3-05-007.

Portland cement accounts for 95 percent of the hydraulic cement production in the United States. The balance of domestic cement production is primarily masonry cement. Both of these materials are produced in portland cement manufacturing plants. A diagram of the process, which encompasses production of both portland and masonry cement, is shown in Figure 11.6-1. As shown in the figure, the process can be divided into the following primary components: raw materials acquisition and handling, kiln feed preparation, pyroprocessing, and finished cement grinding. Each of these process components is described briefly below. The primary focus of this discussion is on pyroprocessing operations, which constitute the core of a portland cement plant.

The initial production step in portland cement manufacturing is raw materials acquisition. Calcium, the element of highest concentration in portland cement, is obtained from a variety of calcareous raw materials, including limestone, chalk, marl, sea shells, aragonite, and an impure limestone known as "natural cement rock". Typically, these raw materials are obtained from open-face quarries, but underground mines or dredging operations are also used. Raw materials vary from facility to facility. Some quarries produce relatively pure limestone that requires the use of additional raw materials to provide the correct chemical blend in the raw mix. In other quarries, all or part of the noncalcarious constituents are found naturally in the limestone. Occasionally, pockets of pyrite, which can significantly increase emissions of sulfur dioxide (SO_2), are found in deposits of limestone, clays, and shales used as raw materials for portland cement. Because a large fraction (approximately one third) of the mass of this primary material is lost as carbon dioxide (CO_2) in the kiln, portland cement plants are located close to a calcareous raw material source whenever possible. Other elements included in the raw mix are silicon, aluminum, and iron. These materials are obtained from ores and minerals such as sand, shale, clay, and iron ore. Again, these materials are most commonly from open-pit quarries or mines, but they may be dredged or excavated from underwater deposits.

Either gypsum or natural anhydrite, both of which are forms of calcium sulfate, is introduced to the process during the finish grinding operations described below. These materials, also excavated from quarries or mines, are generally purchased from an external source, rather than obtained directly from a captive operation by the cement plant. The portland cement manufacturing industry is relying increasingly on replacing virgin materials with waste materials or byproducts from other manufacturing operations, to the extent that such replacement can be implemented without adversely

Table 11.6-5. SUMMARY OF AVERAGE PARTICLE SIZE DISTRIBUTION FOR PORTLAND CEMENT KILNS[a]

Particle Size, μm	Cumulative Mass Percent Equal To Or Less Than Stated Size			
	Uncontrolled		Controlled	
	Wet process (SCC 3-05-007-06)	Dry process (SCC 3-05-006-06)	Wet process With ESP (SCC 3-05-007-06)	Dry process With FF (SCC 3-05-006-06)
2.5	7	18	64	45
5.0	20	ND	83	77
10.0	24	42	85	84
15.0	35	44	91	89
20.0	57	ND	98	100

[a] Reference 3. SCC = Source Classification Code. ND = no data.

Table 11.6-6. SUMMARY OF AVERAGE PARTICLE SIZE DISTRIBUTION FOR PORTLAND CEMENT CLINKER COOLERS[a]

Particle Size, μm	Cumulative Mass Percent Equal To Or Less Than Stated Size	
	Uncontrolled (SCC 3-05-006-14, 3-05-007-14)	With Gravel Bed Filter (SCC 3-05-006-14, 3-05-007-14)
2.5	0.54	40
5.0	1.5	64
10.0	8.6	76
15.0	21	84
20.0	34	89

[a] Reference 3. SCC = Source Classification Code.

Table 11.6-9 (cont.).

Pollutant		Type Of Control	Average Emission Factor		EMISSION FACTOR RATING	References
CASRN[b]	Name		kg/Mg	lb/ton		
	freon 113	ESP	2.5×10^{-5}	5.0×10^{-5}	E	65
193-39-5	indeno(1,2,3-cd)pyrene	FF	4.3×10^{-8}	8.7×10^{-8}	E	62
78-93-3	methyl ethyl ketone	ESP	1.5×10^{-5}	3.0×10^{-5}	E	64-65
75-09-2	methylene chloride	ESP	0.00025	0.00049	E	65
	methylnaphthalene	ESP	2.1×10^{-6}	4.2×10^{-6}	E	65
91-20-3	naphthalene	FF	0.00085	0.0017	E	62
91-20-3	naphthalene	ESP	0.00011	0.00022	D	64
85-01-8	phenanthrene	FF	0.00020	0.00039	E	62
108-95-2	phenol	ESP	5.5×10^{-5}	0.00011	D	64
129-00-0	pyrene	FF	2.2×10^{-6}	4.4×10^{-6}	E	62
100-42-5	styrene	ESP	7.5×10^{-7}	1.5×10^{-6}	E	65
108-88-3	toluene	ESP	0.00010	0.00019	D	64
	total HpCDD	FF	2.0×10^{-10}	3.9×10^{-10}	E	62
3268-87-9	total OCDD	FF	1.0×10^{-9}	2.0×10^{-9}	E	62
	total PCDD	FF	1.4×10^{-9}	2.7×10^{-9}	E	62
132-64-9	total PCDF	FF	1.4×10^{-10}	2.9×10^{-10}	E	62
132-64-9	total TCDF	FF	1.4×10^{-10}	2.9×10^{-10}	E	62
1330-20-7	xylenes	ESP	6.5×10^{-5}	0.00013	D	64

[a] Factors are kg/Mg and lb/ton of clinker produced. SCC = Source Classification Code. ESP = electrostatic precipitator. FF = fabric filter.

[b] Chemical Abstract Service Registry Number (organic compounds only).

References For Section 11.6

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2. *U. S. And Canadian Portland Cement Industry Plant Information Summary*, December 31, 1990, Portland Cement Association, Washington, DC, August 1991.

3. J. S. Kinsey, *Lime And Cement Industry - Source Category Report, Volume II*, EPA-600/7-87-007, U. S. Environmental Protection Agency, Cincinnati, OH, February 1987.

4. Written communication from Robert W. Crolius, Portland Cement Association, Washington, DC, to Ron Myers, U. S. Environmental Protection Agency, Research Triangle Park, NC. March 11, 1992.

5. Written communication from Walter Greer, Ash Grove Cement Company, Overland Park, KS, to Ron Myers, U. S. Environmental Protection Agency, Research Triangle Park, NC, September 30, 1993.

Table 11.6-9 (cont.).

Pollutant Name		Type Of Control	Average Emission Factor		EMISSION FACTOR RATING	References
			kg/Mg	lb/ton		
	Selenium (Se)	ESP	7.5×10^{-5}	0.00015	E	65
	Selenium (Se)	FF	0.00010	0.00020	E	62
	Thallium (Th)	FF	2.7×10^{-6}	5.4×10^{-6}	D	63
	Titanium (Ti)	ESP	0.00019	0.00037	E	65
	Zinc (Zn)	ESP	0.00027	0.00054	D	64
	Zinc (Zn)	FF	0.00017	0.00034	D	63
Organic Pollutants						
CASRN[b]	Name					
35822-46-9	1,2,3,4,6,7,8 HpCDD	FF	1.1×10^{-10}	2.2×10^{-10}	E	62
	C3 benzenes	ESP	1.3×10^{-6}	2.6×10^{-6}	E	65
	C4 benzenes	ESP	3.0×10^{-6}	6.0×10^{-6}	E	65
	C6 benzenes	ESP	4.6×10^{-7}	9.2×10^{-7}	E	65
208-96-8	acenaphthylene	FF	5.9×10^{-5}	0.00012	E	62
67-64-1	acetone	ESP	0.00019	0.00037	D	64
100-52-7	benzaldehyde	ESP	1.2×10^{-5}	2.4×10^{-5}	E	65
71-43-2	benzene	ESP	0.0016	0.0031	D	64
71-43-2	benzene	FF	0.0080	0.016	E	62
	benzo(a)anthracene	FF	2.1×10^{-8}	4.3×10^{-8}	E	62
50-32-8	benzo(a)pyrene	FF	6.5×10^{-8}	1.3×10^{-7}	E	62
205-99-2	benzo(b)fluoranthene	FF	2.8×10^{-7}	5.6×10^{-7}	E	62
191-24-2	benzo(g,h,i)perylene	FF	3.9×10^{-8}	7.8×10^{-8}	E	62
207-08-9	benzo(k)fluoranthene	FF	7.7×10^{-8}	1.5×10^{-7}	E	62
65-85-0	benzoic acid	ESP	0.0018	0.0035	D	64
95-52-4	biphenyl	ESP	3.1×10^{-6}	6.1×10^{-6}	E	65
117-81-7	bis(2-ethylhexyl)phthalate	ESP	4.8×10^{-5}	9.5×10^{-5}	D	64
74-83-9	bromomethane	ESP	2.2×10^{-5}	4.3×10^{-5}	E	64
75-15-0	carbon disulfide	ESP	5.5×10^{-5}	0.00011	D	64
108-90-7	chlorobenzene	ESP	8.0×10^{-6}	1.6×10^{-5}	D	64
74-87-3	chloromethane	ESP	0.00019	0.00038	E	64
218-01-9	chrysene	FF	8.1×10^{-8}	1.6×10^{-7}	E	62
84-74-2	di-n-butylphthalate	ESP	2.1×10^{-5}	4.1×10^{-5}	D	64
53-70-3	dibenz(a,h)anthracene	FF	3.1×10^{-7}	6.3×10^{-7}	E	62
101-41-4	ethylbenzene	ESP	9.5×10^{-6}	1.9×10^{-5}	D	64
206-44-0	fluoranthene	FF	4.4×10^{-6}	8.8×10^{-6}	E	62
86-73-7	fluorene	FF	9.4×10^{-6}	1.9×10^{-5}	E	62
50-00-0	formaldehyde	FF	0.00023	0.00046	E	62

Table 11.6-9 (Metric And English Units). SUMMARY OF NONCRITERIA POLLUTANT EMISSION FACTORS FOR PORTLAND CEMENT KILNS[a]
(SCC 3-05-006-06, 3-05-007-06, 3-05-006-22, 3-05-006-23)

Pollutant Name	Type Of Control	Average Emission Factor		EMISSION FACTOR RATING	References
		kg/Mg	lb/ton		
Inorganic Pollutants					
Silver (Ag)	FF	3.1×10^{-7}	6.1×10^{-7}	D	63
Aluminum (Al)	ESP	0.0065	0.013	E	65
Arsenic (As)	ESP	6.5×10^{-6}	1.3×10^{-5}	E	65
Arsenic (As)	FF	6.0×10^{-6}	1.2×10^{-5}	D	63
Barium (Ba)	ESP	0.00018	0.00035	D	64
Barium (Ba)	FF	0.00023	0.00046	D	63
Beryllium (Be)	FF	3.3×10^{-7}	6.6×10^{-7}	D	63
Calcium (Ca)	ESP	0.12	0.24	E	65
Cadmium (Cd)	ESP	4.2×10^{-6}	8.3×10^{-6}	D	64
Cadmium (Cd)	FF	1.1×10^{-6}	2.2×10^{-6}	D	63
Chloride (Cl)	ESP	0.34	0.68	E	25,42-44
Chloride (Cl)	FF	0.0011	0.0021	D	63
Chromium (Cr)	ESP	3.9×10^{-6}	7.7×10^{-6}	E	64
Chromium (Cr)	FF	7.0×10^{-5}	0.00014	D	63
Copper (Cu)	FF	0.0026	0.0053	E	62
Fluoride (F)	ESP	0.00045	0.00090	E	43
Iron (Fe)	ESP	0.0085	0.017	E	65
Hydrogen chloride (HCl)	ESP	0.025	0.049	E	41,65
Hydrogen chloride (HCl)	FF	0.073	0.14	D	59,63
Mercury (Hg)	ESP	0.00011	0.00022	D	64
Mercury (Hg)	FF	1.2×10^{-5}	2.4×10^{-5}	D	11,63
Potassium (K)	ESP	0.0090	0.018	D	25,42-43
Manganese (Mn)	ESP	0.00043	0.00086	E	65
Ammonia (NH_3)	FF	0.0051	0.010	E	59
Ammonium (NH_4)	ESP	0.054	0.11	D	25,42-44
Nitrate (NO_3)	ESP	0.0023	0.0046	E	43
Sodium (Na)	ESP	0.020	0.038	D	25,42-44
Lead (Pb)	ESP	0.00036	0.00071	D	64
Lead (Pb)	FF	3.8×10^{-5}	7.5×10^{-5}	D	63
Sulfur trioxide (SO_3)	ESP	0.042	0.086	E	25
Sulfur trioxide (SO_3)	FF	0.0073	0.014	D	24,30,50
Sulfate (SO_4)	ESP	0.10	0.20	D	25,42-44
Sulfate (SO_4)	FF	0.0036	0.0072	D	30,33,52

APPENDIX B

Fugitive Dust Emission Estimates

Table B-1. Estimated Maximum Fugitive Dust Emissions from Drop Type Operations (Current), Tarmac America, Pennsuco.

SOURCE	Type of Operation (a)	M Moisture Content (%)	U Wind Speed (MPH)	Emission Factor	Activity Factor	Maximum Annual PM Emissions (tons/yr)	PM10 Size Multiplier (b)	Maximum Annual PM10 Emissions (tons/yr)
COAL HANDLING FACILITIES								
Railcar Unloading	Batch Drop	7.2	8.8	0.00111 lbs/ton	165,841 TPY	0.092	0.35	0.032
Temporary Storage Pile to Active Storage Pile	Batch Drop	7.2	8.8	0.00111 lbs/ton	165,841 TPY	0.092	0.35	0.032
Active Storage Pile to Loading Hopper	Batch Drop	7.2	8.8	0.00111 lbs/ton	165,841 TPY	0.092	0.35	0.032
RAW MATERIALS BLENDING AREA								
Raw Material unloading	Batch Drop	1.0	8.8	0.01761 lbs/ton	200,000 TPY	1.7610	0.35	0.616
Raw Materials Pile to Blending Location	Batch Drop	1.0	8.8	0.01761 lbs/ton	200,000 TPY	1.7610	0.35	0.616
INSUFFLATION AREA								
Truck Loading	Batch Drop	1.0	8.8	0.01761 lbs/ton	12,500 TPY	0.1101	0.35	0.039
Truck Unloading	Batch Drop	1.0	8.8	0.01761 lbs/ton	12,500 TPY	0.1101	0.35	0.039
TOTAL						4.02		1.41

Notes:
(a) Batch Drop Emission Factors are computed from AP-42 (US EPA, 1995) Section 13.2.4-3(1). $E = 0.0032 \times (U/5)^{1.3} / (M/2)^{1.4}$ lb/ton
(b) PM10 Size Multiplier is based on particles < 10 micrometers.

Table B-2. Estimated Maximum Fugitive Dust Emissions from Drop Type Operations (Proposed), Tarmac America, Pennsuco.

SOURCE	Type of Operation (a)	M Moisture Content (%)	U Wind Speed (MPH)	Emission Factor	Activity Factor	Maximum Annual PM Emissions (tons/yr)	PM10 Size Multiplier (b)	Maximum Annual PM10 Emissions (tons/yr)
COAL HANDLING FACILITIES								
Railcar Unloading	Batch Drop	7.2	8.8	0.00111 lbs/ton	176,080 TPY	0.098	0.35	0.034
Temporary Storage Pile to Active Storage Pile	Batch Drop	7.2	8.8	0.00111 lbs/ton	176,080 TPY	0.098	0.35	0.034
Active Storage Pile to Loading Hopper	Batch Drop	7.2	8.8	0.00111 lbs/ton	176,080 TPY	0.098	0.35	0.034
TOTAL						0.29		0.10

Notes:
(a) Batch Drop Emission Factors are computed from AP-42 (US EPA, 1995) Section 13.2.4-3(1). $E = 0.0032 \times (U/5)^{1.3} / (M/2)^{1.4}$ lb/ton
(b) PM10 Size Multiplier is based on particles < 10 micrometers.

Table B-3. Estimation of Emission Credit For Vehicle Traffic in the Coal Handling System (Current) Tarmac America, Pennsuco Facility.

General Data	Front End Loader (loaded)	Front End Loader (unloaded)	
Vehicle Data			
Description	Coal	Coal	
Vehicle Speed (S), mph- Average	10	10	
Vehicle weight (W), tons:			
Loaded	55.5	--	
Unloaded	--	47.5	
Vehicle number of wheels (w)	4	4	
Vehicle miles traveled (VMT)- Annual	2,483 (a)	2,483	(a)
General/ Site Characteristics			
Days of precipitation > or = 0.01 inch (p) Annually	120	120	
Silt content (s), %	12 (b)	12	(b)
Particle size multiplier, PM (k)	1.00	1.00	
Particle size multiplier, PM10 (k)	0.35	0.35	
Emission Control Data			
Emission control method	--	--	
Emission control removal efficiency, %	0	0	
Calculated PM Emission Factor (EF)			
Uncontrolled EF, lb/VMT - Annual	10.18	9.13	
Controlled (Final) EF,lb/VMT- Annual	10.18	9.13	
Calculated PM10 Emission Factor (EF)			
Uncontrolled EF, lb/VMT - Annual	3.56	3.19	
Controlled (Final) EF,lb/VMT- Annual	3.56	3.19	
Estimated Emission Rate (ER)			
Particulate Matter (PM) Emission Rate			
lbs/hr	12.15	10.90	
TPY	12.64	11.33	
Particulate Matter 10 (PM10) Emission Rate			
lbs/hr	4.25	3.81	
TPY	4.42	3.97	

Emission Factor (EF) Equations

Uncontrolled EF (UEF) Equation:

UEF(lb/VMT) = k x 5.9 x (s/12) x (S/30) x (W/3 ^ 0.7 x (w/4) ^ 0.5 x ((365 - p)/365)

Controlled (Final) EF (CEF) Equation:

CEF(lb/VMT) = UEF (lb/ton) x (100 - Removal efficiency (%))

(a) Based on vehicle 165,841 TPY of Dry coal transported 550 ft, empty half the time, full the remaining time. Annual mileage increased by 15 % to account for additional travel due to pile maintenance activities.

(b) Tarmac Information.

Table B-4. Estimation of Emissions For Vehicle Traffic in the Coal Handling System (Proposed) Tarmac America, Pennsuco Facility.

General Data	Front End Loader (loaded)	Front End Loader (unloaded)
Vehicle Data		
Description	Coal	Coal
Vehicle Speed (S), mph- Average	10	10
Vehicle weight (W), tons:		
Loaded	55.5	--
Unloaded	--	47.5
Vehicle number of wheels (w)	4	4
Vehicle miles traveled (VMT)- Annual	2,637 (a)	2,637 (a)
General/ Site Characteristics		
Days of precipitation > or = 0.01 inch (p) Annually	120	120
Silt content (s), %	12 (b)	12 (b)
Particle size multiplier, PM (k)	1.00	1.00
Particle size multiplier, PM10 (k)	0.35	0.35
Emission Control Data		
Emission control method	- -	- -
Emission control removal efficiency, %	0	0
Calculated PM Emission Factor (EF)		
Uncontrolled EF, lb/VMT - Annual	10.18	9.13
Controlled (Final) EF,lb/VMT- Annual	10.18	9.13
Calculated PM10 Emission Factor (EF)		
Uncontrolled EF, lb/VMT - Annual	3.56	3.19
Controlled (Final) EF,lb/VMT- Annual	3.56	3.19
Estimated Emission Rate (ER)		
Particulate Matter (PM) Emission Rate		
lbs/hr	12.90	11.57
TPY	13.42	12.03
Particulate Matter 10 (PM10) Emission Rate		
lbs/hr	4.52	4.05
TPY	4.70	4.21

Emission Factor (EF) Equations

Uncontrolled EF (UEF) Equation:

UEF(lb/VMT) = k x 5.9 x (s/12) x (S/30) x (W/3 ^ 0.7 x (w/4) ^ 0.5 x ((365 - p)/365)

Controlled (Final) EF (CEF) Equation:

CEF(lb/VMT) = UEF (lb/ton) x (100 - Removal efficiency (%))

(a) Based on vehicle 176,080 TPY of coal transported 550 ft, empty half the time, full the remaining time. Annual mileage increased by 15 % to account for additional travel due to pile maintenance activities.
Source: AP-42, Section 13.2.2, Unpaved Roads, January, 1995.
(b) Tarmac Information.

Table B-5. Estimation of Emission Credit For Vehicle Traffic in the Raw Material Blending Area
Tarmac America, Pennsuco Facility.

General Data	Front End Loader (loaded)	Front End Loader (unloaded)
Vehicle Data		
Description	Dry Feed	Dry Feed
Vehicle Speed (S), mph- Average	5	5
Vehicle weight (W), tons:		
Loaded	50	--
Unloaded	--	40
Vehicle number of wheels (w)	4	4
Vehicle miles traveled (VMT)- Annual	3,267 (a)	3,267 (a)
General Site Characteristics		
Days of precipitation > or = 0.01 inch (p) Annually	120	120
Silt content (s), %	12 (b)	12 (b)
Particle size multiplier, PM (k)	1.00	1.00
Particle size multiplier, PM10 (k)	0.35	0.35
Emission Control Data		
Emission control method	--	--
Emission control removal efficiency, %	0	0
Calculated PM Emission Factor (EF)		
Uncontrolled EF, lb/VMT - Annual	4.73	4.05
Controlled (Final) EF,lb/VMT- Annual	4.73	4.05
Calculated PM10 Emission Factor (EF)		
Uncontrolled EF, lb/VMT - Annual	1.66	1.42
Controlled (Final) EF,lb/VMT- Annual	1.66	1.42
Estimated Emission Rate (ER)		
Particulate Matter (PM) Emission Rate		
lbs/hr	7.43	6.36
TPY	7.73	6.61
Particulate Matter 10 (PM10) Emission Rate		
lbs/hr	2.60	2.22
TPY	2.70	2.31

Emission Factor (EF) Equations

Uncontrolled EF (UEF) Equation:

UEF(lb/VMT) = k x 5.9 x (s/12) x (S/30) x (W/3 ^ 0.7 x (w/4) ^ 0.5 x ((365 - p)/365)

Controlled (Final) EF (CEF) Equation:

CEF(lb/VMT) = UEF (lb/ton) x (100 - Removal efficiency (%))

(a) Based on vehicle 200,000 TPY of Dry Feed transported 750 ft, empty half the time, full the remaining time. Annual mileage increased by 15 % to account for additional travel due to pile maintenance activities.
Source: AP-42, Section 13.2.2, Unpaved Roads, January, 1995.

(b) Tarmac Information.

Table B-6. Estimation of Emission Credit For Vehicle Traffic in the Insufflation Area Tarmac America, Pennsuco Facility.

General Data	Truck (loaded)	Truck (unloaded)
Vehicle Data		
Description	Clinker Dust	Clinker Dust
Vehicle Speed (S), mph- Average	3	3
Vehicle weight (W), tons:		
Loaded	25.75	--
Unloaded	--	13.75
Vehicle number of wheels (w)	10	10
Vehicle miles traveled (VMT)- Annual	704 (a)	704 (a)
General/ Site Characteristics		
Days of precipitation > or = 0.01 inch (p) Annually	120	120
Silt content (s), %	12 (b)	12 (b)
Particle size multiplier, PM (k)	1.00	1.00
Particle size multiplier, PM10 (k)	0.35	0.35
Emission Control Data		
Emission control method	--	--
Emission control removal efficiency, %	0	0
Calculated PM Emission Factor (EF)		
Uncontrolled EF, lb/VMT - Annual	2.82	1.82
Controlled (Final) EF,lb/VMT- Annual	2.82	1.82
Calculated PM10 Emission Factor (EF)		
Uncontrolled EF, lb/VMT - Annual	0.99	0.64
Controlled (Final) EF,lb/VMT- Annual	0.99	0.64
Estimated Emission Rate (ER)		
Particulate Matter (PM) Emission Rate		
lbs/hr	0.95	0.61
TPY	0.99	0.64
Particulate Matter 10 (PM10) Emission Rate		
lbs/hr	0.33	0.22
TPY	0.35	0.22

Emission Factor (EF) Equations

Uncontrolled EF (UEF) Equation:

UEF(lb/VMT) = k x 5.9 x (s/12) x (S/30) x (W/3 ^ 0.7 x (w/4) ^ 0.5 x ((365 - p)/365)

Controlled (Final) EF (CEF) Equation:

CEF(lb/VMT) = UEF (lb/ton) x (100 - Removal efficiency (%))

(a) Based on 12,500 TPY of Clinker Dust transported 3,100 ft, empty half the time, full the remaining time. Annual mileage increased by 15 % to account for additional travel due to pile maintenance activities.
Source: AP-42, Section 13.2.2, Unpaved Roads, January, 1995.

(b) Tarmac Information.