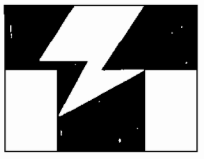
F.J. GANNON STATION

FUEL YARD MODIFICATION
CONSTRUCTION PERMIT APPLICATION



TAMPA ELECTRIC

A TECO ENERGY COMPANY

Tampa, Florida

June 1997

TAMPA ELECTRIC
A TECO ENERGY COMPANY

RECEIVED
JUL 03 1997
D E P

June 30, 1997

Mr. Gerald Kissell
Air Permitting Supervisor
Southwest District
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, Florida 33619

Via FedEx
Airbill No. 3793593403

0570040

Re: Tampa Electric Company (TEC)
F. J. Gannon Operating Permit Nos. AO29-250139 and AO29 -216480
Fuel Yard Modification Construction Permit Application

Dear Mr. Kissell:

Please find enclosed three (3) signed and sealed copies of TEC's permit application to amend the above referenced operating permit. A check for $250.00 to the Florida Department of Environmental Protection is also enclosed.

The fourth signed and sealed copy is being submitted to the Environmental Protection Commission of Hillsborough County (EPC). Also enclosed in the EPC's package is a check for $800.00

TEC would be pleased to meet with you or your staff at your convenience to discuss this request in detail. If you have any additional questions or comments, feel free to contact me at (813) 641-5087. Thank you for your assistance on this project.

Sincerely,

Laura A. Rector

Laura A. Rector
Engineer - Environmental Planning

EP\gm\LAR090

Enclosures

c/enc: Mr. Clair Fancy - FDEP
Mr. Richard Kirby - EPCHC

TAMPA ELECTRIC
A TECO ENERGY COMPANY

TO WHOM IT MAY CONCERN:

Please be advised that Patrick A. Ho, Manager, Environmental Planning, is the authorized representative of Tampa Electric Company concerning matters with which this permit application deals.

Very truly yours,

Charles R. Black
Vice President
Energy Supply

CRB\gm\ADMIN\AUTH.LTR

F.J. GANNON STATION

FUEL YARD MODIFICATION CONSTRUCTION PERMIT APPLICATION

RECEIVED
OCT 30 1997
BUREAU OF
AIR REGULATION

TAMPA ELECTRIC
A TECO ENERGY COMPANY

Tampa, Florida

RECEIVED
JUL 02 1997
Department of Environmental Protection
SOUTHWEST DISTRICT
BY

June 1997

TABLE OF CONTENTS

INTRODUCTION

The Tampa Electric Company (TEC) F.J. Gannon Station located in Tampa, Hillsborough County, Florida is a nominal 1,317 megawatt (MW) electric steam generating facility. The F.J. Gannon Station consists of six steam boilers (Units 1 through 6), six steam turbines, one simple-cycle combustion turbine (CT No. 1), a once-through cooling water system, solid fuels, fluxing material, fly ash, and slag storage and handling facilities, fuel oil storage tanks, and ancillary support equipment. Unit Nos. 1 through 6 are all fired with coal, which may be supplemented with up to 48 gal/min of used oil, including liquid oil and oil-contaminated solids. No. 2 fuel oil is used for ignition during startup. In addition, Florida Department of Environmental Protection (FDEP) final permit issuance is pending for firing Unit Nos. 3 and 4 using a tire-derived fuel (TDF)/coal blend. TEC is also test-firing Unit No. 3 using a wood-derived fuel (WDF)/coal blend, per FDEP approval.

This construction permit application is for three changes to fuel yard operations as currently allowed under FDEP Permits AO29-250139 and AO29-216480. These changes are:

- Increasing the fuel yard annual throughput from 2,850,000 to 4,000,000 tons per year (tpy), exclusive of alternate fuels.
- Operating all barge and rail unloading and stack out belt conveyors at 2,300 tons per hour (tph).
- Installing an auxiliary unloading and handling system to handle up to 362,025 tpy of alternate fuel (i.e., TDF, WDF, etc.)

This construction permit application also serves as notification that two of the existing four fuel crushers will be replaced. Because the fuel crushing capacity and the associated pollutant emission rate will not increase, this replacement is not subject to any New Source Performance Standards (NSPS) and does not require a permit modification.

This application presents the required general information needed to obtain a construction permit. In addition, specific information regarding each change is provided in Document II.E.6 of this application. A discussion of the fuel crusher replacement is also provided in Document II.E.6.

The potential respirable particulate matter (PM_{10}) emissions of 8.18 tons per year (tpy) that may occur from the modified fuel handling facilities represents a substantial decrease from the potential particulate matter (PM) emissions of 160.08 tpy expected from fuel handling as permitted in the mid-1980s. This decrease results for three reasons:

- Dust suppressant will be applied to the fuel either prior to or at the time of delivery to control fugitive PM emissions. Previously, dust suppressant was not applied until the fuel was transferred to belt conveyors D1 and D2.
- Lower, more accurate emission factors have been developed since the fuel yard was originally permitted. These updated emission factors and ambient monitoring data collected over the past ten years demonstrate that PM emissions from the fuel yard were overestimated when the fuel yard was originally permitted.
- Dust emissions are currently expressed as PM_{10}. When the fuel yard was originally permitted, dust emissions were expressed as PM. A portion of the calculated emission decrease occurs because PM_{10} is a subset of PM.

Dispersion modeling provides reasonable assurance that PM_{10} emissions from F.J. Gannon Station, including the fuel handling facility, will not cause or contribute to any violation of a National or Florida Ambient Air Quality Standard. The results of this modeling are provided in Appendix A. PM_{10} emission calculation worksheets for the fuel handling emission sources are provided in Appendix B.

Department of
Environmental Protection

DIVISION OF AIR RESOURCES MANAGEMENT

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Identification of Facility Addressed in This Application

1. Facility Owner/Company Name : Tampa Electric Company	
2. Site Name : F.J. Gannon Station	
3. Facility Identification Number : 0570040	[ ] Unknown
4. Facility Location : F.J. Gannon Station Street Address or Other Locator : Port Sutton Road City : Tampa	County : Hillsborough Zip Code : 33619-
5. Relocatable Facility? [ ] Yes [X] No	6. Existing Permitted Facility? [X] Yes [ ] No

DEP Form No. 62-210.900(1) - Form
Effective : 3-21-96

Owner/Authorized Representative or Responsible Official

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

Name : Patrick Ho
Title : Manager, Environmental Planning

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

Organization/Firm : Tampa Electric Company
Street Address : P.O. Box 111
City : Tampa
State : FL Zip Code : 33601-0111

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

Telephone : (813)641-5044 Fax : (813)641-5081

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 units.*

Patrick A. Ho
Signature

6/30/97
Date

* Attach letter of authorization if not currently on file.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type
008	Solid Fuel Bunkers (all solid fuel-fired units)	AC1F
009	Solid Fuel Handling and Storage (all sources)	AC1F

Purpose of Application and Category

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 revised :

[ ] 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.

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.

Operation permit to be revised :

Reason for revision :

Category II : All Air Operation 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 Fule 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.

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 :

AO29-250139
AO29-216480

[ ] 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 : $250.00 [ ] Not Applicable.

Construction/Modification Information

1. Description of Proposed Project or Alterations :

   1. Increase fuel yard throughput from 2,850,000 tpy to 4,000,000 tpy.
   2. Standardize all barge and rail unloading belt speeds at 2,300 tph.
   3. Add equipment to handle alternate fuel at 362,025 tpy and 400 tph.
   4. Replace two existing crushers (Notification, only.)

2. Projected or Actual Date of Commencement of Construction : 01-Sep-1997

3. Projected Date of Completion of Construction : 31-Aug-1998

Professional Engineer Certification

1. Professional Engineer Name : Thomas W. Davis
   Registration Number : 36777

2. Professional Engineer Mailing Address :

   Organization/Firm : Env. Consulting & Technology, Inc.
   Street Address : 3701 NW 98th Street
   City : Gainesville State : FL Zip Code : 32606-____

3. Professional Engineer Telephone Numbers :
   Telephone : (352)332-0444 Fax : (352)332-6722

4. Professional Engineer Statement :

I, the undersigned, hereby certified, 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 pollutant 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 permi 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 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.

Thomas M. Davis — Signature

6/25/97 — Date

* Attach any exception to certification statement.

Application Contact

1. Name and Title of Application Contact :

Name : Laura Rector
Title : Engineer - Environmental Planning

2. Application Contact Mailing Address :

Organization/Firm : Tampa Electric Company
Street Address : 6499 U.S. Highway 41 North
City : Apollo Beach
State : FL Zip Code : 33572-9200

3. Application Contact Telephone Numbers :

Telephone : (813)641-5087 Fax : (813)641-5081

Application Comment

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility, Location, and Type

1. Facility UTM Coordinates : Zone : 17 East (km) : 360.00 North (km) : 3087.50			
2. Facility Latitude/Longitude : Latitude (DD/MM/SS) : Longitude (DD/MM/SS) :			
3. Governmental Facility Code : 0	4. Facility Status Code : A	5. Facility Major Group SIC Code : 49	6. Facility SIC(s) : 4911
7. Facility Comment :			

Facility Contact

1. Name and Title of Facility Contact : Cindy Barringer Environmental Coordinator
2. Facility Contact Mailing Address : Organization/Firm : Tampa Electric Company Street Address : Port Sutton Road City : Tampa State : FL Zip Code : 33619-____
3. Facility Contact Telephone Numbers : Telephone : (813)641-5497 Fax : (813)641-5566

Facility Regulatory Classifications

1. Small Business Stationary Source?	N
2. Title V Source?	Y
3. Synthetic Non-Title V Source?	N
4. Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?	Y
5. Synthetic Minor Source of Pollutants Other than HAPs?	N
6. Major Source of Hazardous Air Pollutants (HAPs)?	Y
7. Synthetic Minor Source of HAPs?	N
8. One or More Emissions Units Subject to NSPS?	N
9. One or More Emission Units Subject to NESHAP?	N
10. Title V Source by EPA Designation?	N
11. Facility Regulatory Classifications Comment :	

B. FACILITY REGULATIONS

Rule Applicability Analysis

Not applicable

B. FACILITY REGULATIONS

List of Applicable Regulations

Previously submitted as part of the F.J. Gannon Title V Operation Permit application.

This list remains unchanged and is not repeated here.

C. FACILITY POLLUTANTS

Facility Pollutant Information

1. Pollutant Emitted	2. Pollutant Classification
SO2	A
NOX	A
PM	A
PM10	A
CO	A
VOC	A
HAPS	A
H106	A
H107	A

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Information Pollutant 3

1. Pollutant Emitted :	SO2
2. Requested Emissions Cap :	(lbs/hour) (tons/year)
3. Basis for Emissions Cap Code :	
4. Facility Pollutant Comment :	A multi-unit or facility-wide emission cap is not requested as part of this construction permit application.

D. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements for All Applications

1. Area Map Showing Facility Location :	DOC.II.E.1
2. Facility Plot Plan :	DOC.II.E.2
3. Process Flow Diagram(s) :	DOC.II.E.3
4. Precautions to Prevent Emissions of Unconfined Particulate Matter :	DOC.II.E.4
5. Fugitive Emissions Identification :	DOC.II.E.5
6. Supplemental Information for Construction Permit Application :	DOC.II.E.6

Additional Supplemental Requirements for Category I Applications Only

7. List of Proposed Exempt Activities :	NA
8. List of Equipment/Activities Regulated under Title VI :	NA
9. Alternative Methods of Operation :	NA
10. Alternative Modes of Operation (Emissions Trading) :	NA
11. Identification of Additional Applicable Requirements :	NA
12. Compliance Assurance Monitoring Plan :	NA
13. Risk Management Plan Verification :	NA
14. Compliance Report and Plan :	NA
15. Compliance Certification (Hard-copy Required) :	NA

III. EMISSIONS UNIT INFORMATION

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

Emissions Unit Information Section 1

Solid Fuel Bunkers (all solid fuel-fired units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

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

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

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.

Emissions Unit Information Section 1

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

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Solid Fuel Bunkers (all solid fuel-fired units)		
2. Emissions Unit Identification Number : 008 [ ] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : A	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 49
6. Emissions Unit Comment : This emissions unit is designated No. 008 in the F.J. Gannon Station Title V Air Operation Permit application.		

Emissions Unit Information Section 1
Solid Fuel Bunkers (all solid fuel-fired units)

Emissions Unit Control Equipment 1

1. Description : Roto-Clones (Centrifugal Collector - Low Efficiency)
2. Control Device or Method Code : 9

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

Emissions Unit Information Section 1
Solid Fuel Bunkers (all solid fuel-fired units)

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 :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	4362025	tons per year
4. Maximum Production Rate :		
5. Operating Capacity Comment :		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 1
Solid Fuel Bunkers (all solid fuel-fired units)

Rule Applicability Analysis

Not applicable

Emissions Unit Information Section 1
Solid Fuel Bunkers (all solid fuel-fired units)

List of Applicable Regulations

Previously submitted as part of the F.J. Gannon Title V Operation Permit application.

This list remains unchanged and is not repeated here.

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 1

Solid Fuel Bunkers (all solid fuel-fired units)

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	FH-036 thru FH-041	
2. Emission Point Type Code :	3	
3. Descriptions of Emission Points Comprising this Emissions Unit : Fuel Handling - Conveyors H1/H2 to Conveyors J1/J2 and Conveyors J1/J2 to Fuel Bunkers 1 through 6		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Not applicable		
5. Discharge Type Code :	V	
6. Stack Height :	155	feet
7. Exit Diameter :	1.00	feet
8. Exit Temperature :	77	°F
9. Actual Volumetric Flow Rate :	9,600	acfm
10. Percent Water Vapor :		%
11. Maximum Dry Standard Flow Rate :	9,337	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000 North (km) : 3,087.500		
14. Emission Point Comment : Stack data is for each Roto-Clone. Actual volumetric flow rate for FH-040 is 5,400 acfm.		

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 1

Solid Fuel Bunkers (all solid fuel-fired units)

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Fuel handling	
2. Source Classification Code (SCC) : 3-05-101-03	
3. SCC Units : Tons Transferred Or Handled	
4. Maximum Hourly Rate : 1,600.00	5. Maximum Annual Rate : 4,362,025.00
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment : Maximum Hourly Rate (Field 4) is tons per hour per bunker. Bunkers are not filled simultaneously. Maximum Annual Rate (Field 5) is total for all bunkers.	

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

Emissions Unit Information Section 1
Solid Fuel Bunkers (all solid fuel-fired units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	009		EL
2 - PM10	009		NS

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

Emissions Unit Information Section 1
Solid Fuel Bunkers (all solid fuel-fired units)

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**	
2. Total Percent Efficiency of Control : 75.00 %	
3. Potential Emissions : 0.19 lb/hour 0.99 tons/year	
4. Synthetically Limited? [ ] Yes [X] No	
5. Range of Estimated Fugitive/Other Emissions: to tons/year	
6. Emissions Factor : Reference : Allowable emissions	
7. Emissions Method Code : 0	
8. Calculations of Emissions :	
9. Pollutant Potential/Estimated Emissions Comment : Potential emissions (Field 3) are per Roto-Clone.	

Emissions Unit Information Section 1
Solid Fuel Bunkers (all solid fuel-fired units)

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :	RULE			
2. Future Effective Date of Allowable Emissions :				
3. Requested Allowable Emissions and Units :	0.19	lb/hr, each		
4. Equivalent Allowable Emissions :	0.19	lb/hour	0.99	tons/year
5. Method of Compliance : EPA Reference Method 9 once every 5 years				
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Requested and equivalent allowable emissions (Fields 3 and 4) are per Roto-clone. Basis for allowable emission code is FDEP Rule 62-296.700(2)(c), F.A.C., per Specific Condition No. 2 of Permit AO29-250139. Method of compliance per FDEP Rule 62-297.310(7)(c), F.A.C.				

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 1
Solid Fuel Bunkers (all solid fuel-fired units)

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype : 5
2. Basis for Allowable Opacity : RULE
3. Requested Allowable Opacity : Normal Conditions : 5 % Exceptional Conditions : % Maximum Period of Excess Opacity Allowed : min/hour
4. Method of Compliance : EPA Reference Method 9 once every 5 years.
5. Visible Emissions Comment : FDEP Rule 62-297.310(7)(c), F.A.C., per Specific Condition No. 6 of Permit AO29-250139.

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 1
Solid Fuel Bunkers (all solid fuel-fired units)

Visible Emissions Limitation : Visible Emissions Limitation 2

1. Visible Emissions Subtype : 00
2. Basis for Allowable Opacity :
3. Requested Allowable Opacity : Normal Conditions : % Exceptional Conditions : 100 % Maximum Period of Excess Opacity Allowed : 60 min/hour
4. Method of Compliance : Not applicable
5. Visible Emissions Comment : Excess emission resulting from startup, shutdown, or malfunction. Maximum period of excess emission allowed is 2 hours in any 24-hour period, per FDEP Rule 62-210.700(1), F.A.C.

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 1

Solid Fuel Bunkers (all solid fuel-fired units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[ ] 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 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 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.

[X] 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?

[ ] 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 emissions unit consumes increment.

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

[X] 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 :	SO2 :	NO2 :
U		

4. Baseline Emissions :

PM :	0.1900	lb/hour	0.9900	tons/year
SO2 :		lb/hour		tons/year
NO2 :				tons/year

5. PSD Comment :

Emission unit is part of baseline PSD emission inventory. Baseline emissions are per Roto-Clone.

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 1

Solid Fuel Bunkers (all solid fuel-fired units)

Supplemental Requirements for All Applications

1. Process Flow Diagram :	DOC.II.E.3
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	DOC.III.I.3
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	DOC.III.I.7
8. Supplemental Information for Construction Permit Application :	DOC.II.E.6
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :	NA
11. Alterntive Modes of Operation (Emissions Trading) :	NA

12. Identification of Additional Applicable Requirements :	NA
13. Compliance Assurance Monitoring Plan :	NA

14. Acid Rain Application (Hard-copy Required) :

NA	Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
NA	Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
NA	New Unit Exemption (Form No. 62-210.900(1)(a)2.)
NA	Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

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

Emissions Unit Information Section 2

Solid Fuel Handling and Storage (all sources)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

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

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

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.

Emissions Unit Information Section 2

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

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Solid Fuel Handling and Storage (all sources)		
2. Emissions Unit Identification Number : 009 [ ] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : A	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 49
6. Emissions Unit Comment : This emissions unit is designated No. 009 in the F.J. Gannon Station Title V Air Operation Permit application. Fugitive emissions associated with solid fuel handling. This emission unit addresses fugitive emission sources FH-001 through FH-035, FH-042 through FH-044, and AH-001 through AH-005. Fluxing agent may also be handled by the equipment within this emission unit.		

Emissions Unit Information Section 2
Solid Fuel Handling and Storage (all sources)

Emissions Unit Control Equipment 1

1. Description : Process enclosed
2. Control Device or Method Code : 54

Emissions Unit Information Section 2
Solid Fuel Handling and Storage (all sources)

Emissions Unit Control Equipment 2

1. Description : Dust suppession by chemical stabilizers or wetting agents
2. Control Device or Method Code : 62

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

Emissions Unit Information Section 2
Solid Fuel Handling and Storage (all sources)

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 :		Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	4362025	tons per year
4. Maximum Production Rate :		
5. Operating Capacity Comment : Solid fuel handling rate.		

Emissions Unit Operating Schedule

Requested Maximum Operating Schedule :	
24 hours/day	7 days/week
52 weeks/year	8,760 hours/year

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 2
Solid Fuel Handling and Storage (all sources)

Rule Applicability Analysis

Not applicable

List of Applicable Regulations

Previously submitted as part of the F.J. Gannon Title V Operation Permit application.

This list remains unchanged and is not repeated here.

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 2

Solid Fuel Handling and Storage (all sources)

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	See DOC.II.E.2	
2. Emission Point Type Code :	4	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) FH-001 through FH-035, FH-042 through FH-044, AFH-001 through AFH-005		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Not applicable		
5. Discharge Type Code :	F	
6. Stack Height :		feet
7. Exit Diameter :		feet
8. Exit Temperature :	77	°F
9. Actual Volumetric Flow Rate :		acfm
10. Percent Water Vapor :		%
11. Maximum Dry Standard Flow Rate :		dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : 17 East (km) : 360.000 North (km) : 3087.500		
14. Emission Point Comment : Nonstack emission point height (Field 12) is different for each emission source. See DOC.II.E.6 for specific height information.		

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 2

Solid Fuel Handling and Storage (all sources)

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Solid fuel handling and storage	
2. Source Classification Code (SCC) : 3-05-101-03	
3. SCC Units : Tons Transferred Or Handled	
4. Maximum Hourly Rate : 4,600.00	5. Maximum Annual Rate : 4,000,000.00
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment : Maximum hourly rate may be different for some fuel handling equipment. The Maximum Hourly Rate (Field 4) of 4,600 tph is the highest for any one fuel handling operation (i.e., two parallel conveyor belts operating simultaneously). See DOC.II.E.6 for detailed maximum hourly rates for each belt conveyor.	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 2

Solid Fuel Handling and Storage (all sources)

Segment Description and Rate : Segment 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Alternate fuel handling and storage	
2. Source Classification Code (SCC) : 3-05-101-99	
3. SCC Units : Tons Transferred Or Handled	
4. Maximum Hourly Rate : 400.00	5. Maximum Annual Rate : 362,025.00
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

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

Emissions Unit Information Section 2
Solid Fuel Handling and Storage (all sources)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM	054	062	WP

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

Emissions Unit Information Section 2
Solid Fuel Handling and Storage (all sources)

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM**
2. Total Percent Efficiency of Control : %
3. Potential Emissions : lb/hour tons/year
4. Synthetically Limited? [X] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: 1 1.00 to 5.00 tons/year
6. Emissions Factor : Reference :
7. Emissions Method Code :
8. Calculations of Emissions :
9. Pollutant Potential/Estimated Emissions Comment : Emisison unit throughput limited to 4,362,025 tpy.

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 2
Solid Fuel Handling and Storage (all sources)

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	05
2. Basis for Allowable Opacity :	RULE
3. Requested Allowable Opacity :	
Normal Conditions :	5 %
Exceptional Conditions :	%
Maximum Period of Excess Opacity Allowed :	min/hour
4. Method of Compliance :	
EPA Reference Method 9	
5. Visible Emissions Comment :	
Opacity testing shall be conducted annually on the following fugitive emission locations: FH-004, FH-005, FH-014, FH-020 or FH-021, FH-034 or FH-035, and FH-042 or FH-043. FDEP Rule 62-296.711(2)(a), F.A.C., per Specific Condition No. 2 of Permit AO29-216480.	

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 2
Solid Fuel Handling and Storage (all sources)

Visible Emissions Limitation : Visible Emissions Limitation 2

1. Visible Emissions Subtype : 00

2. Basis for Allowable Opacity :

3. Requested Allowable Opacity :

Normal Conditions :		%
Exceptional Conditions :	100	%
Maximum Period of Excess Opacity Allowed :	60	min/hour

4. Method of Compliance :

Not applicable

5. Visible Emissions Comment :

Excess emission resulting from startup, shutdown, or malfunction.
Maximum period of excess emission allowed is 2 hours in any 24-hour period.
FDEP Rule 62-210.700, F.A.C.

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 2

Solid Fuel Handling and Storage (all sources)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

[ ] 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 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 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.

[X] 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?

[ ] 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 emissions unit consumes increment.

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

[X] 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 : U	SO2 :	NO2 :

4. Baseline Emissions :

PM :	lb/hour	tons/year
SO2 :	lb/hour	tons/year
NO2 :		tons/year

5. PSD Comment :

Emission unit is part of baseline PSD emission inventory.

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 2

Solid Fuel Handling and Storage (all sources)

Supplemental Requirements for All Applications

1. Process Flow Diagram :	DOC.II.E.3
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	NA
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	DOC.III.I.7
8. Supplemental Information for Construction Permit Application :	DOC.II.E.6
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :	NA
11. Alterntive Modes of Operation (Emissions Trading) :	NA

12. Identification of Additional Applicable Requirements :	NA
13. Compliance Assurance Monitoring Plan :	NA

14. Acid Rain Application (Hard-copy Required) :

NA	Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
NA	Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
NA	New Unit Exemption (Form No. 62-210.900(1)(a)2.)
NA	Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

DOCUMENT II.E.1

AREA MAP SHOWING FACILITY LOCATION

94500-0100.dgn

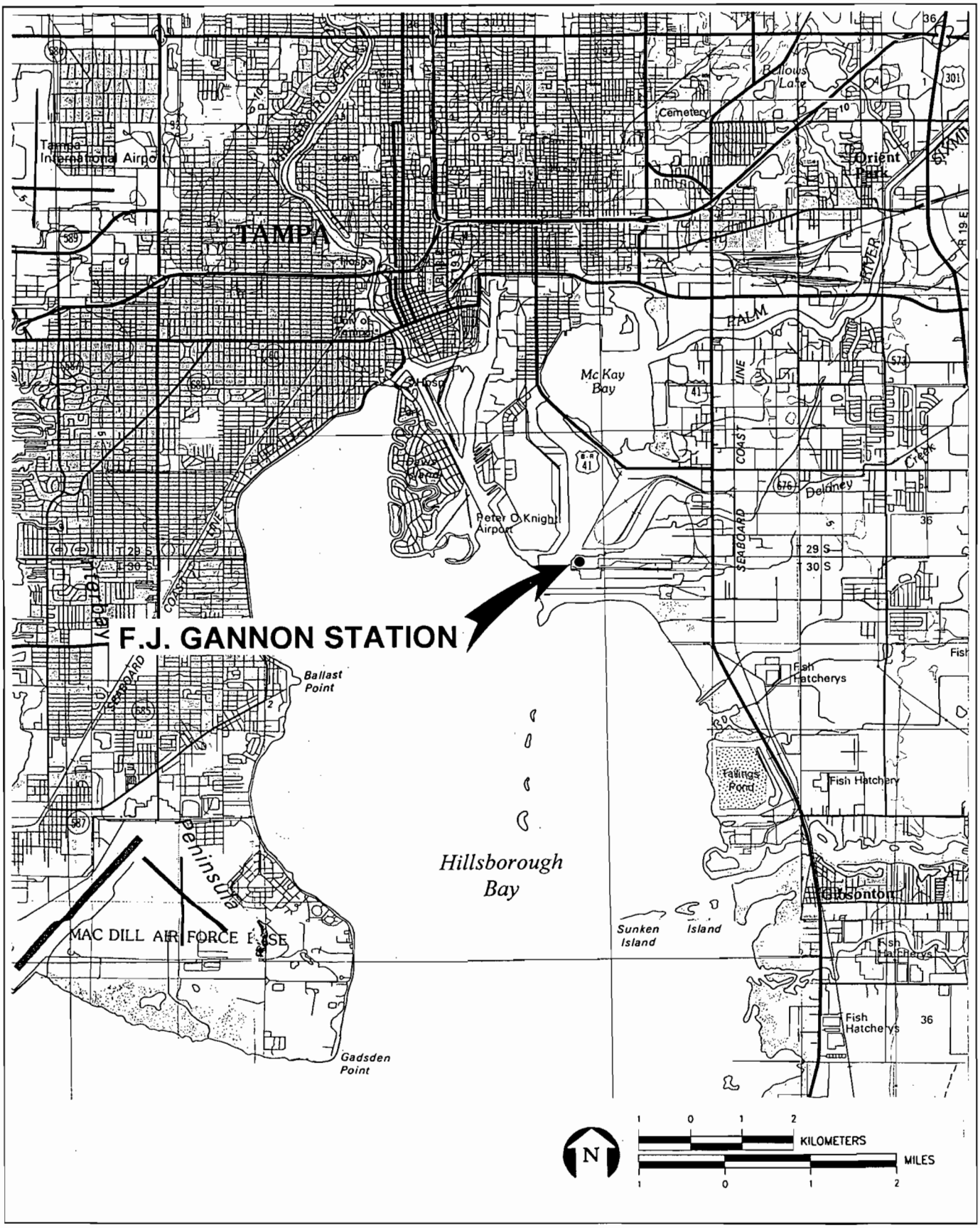


FIGURE II.E.1.1.

F.J. GANNON STATION AREA MAP

Source: USGS 30/60 Quad, St. Petersburg, FL, 1981.

TAMPA ELECTRIC

A TECO ENERGY COMPANY

DOCUMENT II.E.2

FACILITY PLOT PLANS

Fuel Handling and Storage Sources (FH)

Description	Source ID	Figure No.
Barge to East Clamshell (Spillage) *	FH-001	II.E.2.2.
Barge to West Clamshell (Spillage) *	FH-002	II.E.2.2.
Barge to Continuous Unloader (Spillage) *	FH-003	II.E.2.2.
East Clamshell to East Hopper *	FH-004	II.E.2.2.
West Clamshell to West Hopper *	FH-005	II.E.2.2.
Continuous Unloader to Conveyor A *	FH-006	II.E.2.2.
Conveyor A to Continuous Feeder *	FH-007	II.E.2.2.
East Hopper to Conveyor B *	FH-008	II.E.2.2.
West Hopper to Conveyor B *	FH-009	II.E.2.2.
Conveyor B to Conveyor C *	FH-011	II.E.2.2.
Conveyor C to Conveyor D1/D2 (Flux to Flux Storage Pile)	FH-012	II.E.2.2.
Railcar to Hopper *	FH-013	II.E.2.2.
Hopper to Conveyor L *	FH-014	II.E.2.2.
Conveyor L to Conveyor D1/D2 (Flux to Flux Storage Pile)	FH-015	II.E.2.2.
Conveyor D1 to Conveyor M1	FH-016	II.E.2.2.
Conveyor D2 to Conveyor M2	FH-017	II.E.2.2.
Conveyor M1 to Conveyor E1	FH-018	II.E.2.2.
Conveyor M2 to Conveyor E2	FH-019	II.E.2.2.
Conveyor E1 to Storage Pile	FH-020	II.E.2.2.
Conveyor E2 to Storage Pile	FH-021	II.E.2.2.
North Storage Pile	FH-022	II.E.2.2.
East Portion of South Storage Pile	FH-023a	II.E.2.2.
West Portion of South Storage Pile	FH-023b	II.E.2.2.
Underground Reclaim System to Conveyor F1	FH-024	II.E.2.2.
Underground Reclaim System to Conveyor F4	FH-025	II.E.2.2.
Underground Reclaim System to Conveyor F3	FH-026	II.E.2.2.
Underground Reclaim System to Conveyor F2	FH-027	II.E.2.2.
Conveyor F1 to Conveyor G1/G2	FH-028	II.E.2.2.
Conveyor F4 to Conveyor G1/G2	FH-029	II.E.2.2.
Conveyor F3 to Conveyor G1/G2	FH-030	II.E.2.2.
Conveyor F2 to Conveyor G1/G2	FH-031	II.E.2.2.
Conveyor G1 to Hammermill Crusher 1 *	FH-032	II.E.2.2.
Conveyor G2 to Hammermill Crusher 2 *	FH-033	II.E.2.2.
Hammermill Crusher 1 to Conveyor H1 *	FH-034	II.E.2.2.
Hammermill Crusher 2 to Conveyor H2 *	FH-035	II.E.2.2.
Conveyors H1/H2 to Conveyors J1/J2, Conveyors J1/J2 to Bunker 1 *	FH-036	II.E.2.2
Conveyors J1/J2 to Bunker 2 *	FH-037	II.E.2.2
Conveyors J1/J2 to Bunker 3 *	FH-038	II.E.2.2
Conveyors J1/J2 to Bunker 4 *	FH-039	II.E.2.2
Conveyors J1/J2 to Bunker 5 *	FH-040	II.E.2.2
Conveyors J1/J2 to Bunker 6 *	FH-041	II.E.2.2
Conveyor D1 to Conveyor G1/G2 (By-Pass Storage) *	FH-042	II.E.2.2
Conveyor D2 to Conveyor G1/G2 (By-Pass Storage) *	FH-043	II.E.2.2
Storage Pile Maintenance	FH-044	II.E.2.2
Auxiliary Truck Unloading *	AH-001	II.E.2.2
Storage Pile to Auxiliary Hopper *	AH-002	II.E.2.2
Auxiliary Hopper to Conveyor T *	AH-003	II.E.2.2
Conveyor T to Conveyor U *	AH-004	II.E.2.2
Conveyor U to Conveyor G1/G2 *	AH-005	II.E.2.2

* THIS EQUIPMENT MAY ALSO BE USED TO TRANSFER FLUX.

FIGURE II.E.2.1.

F.J. GANNON STATION EMISSION SOURCE IDENTIFICATION KEY SHEET

Source: TEC, 1997; ECT, 1997.

TAMPA ELECTRIC
A TECO ENERGY COMPANY

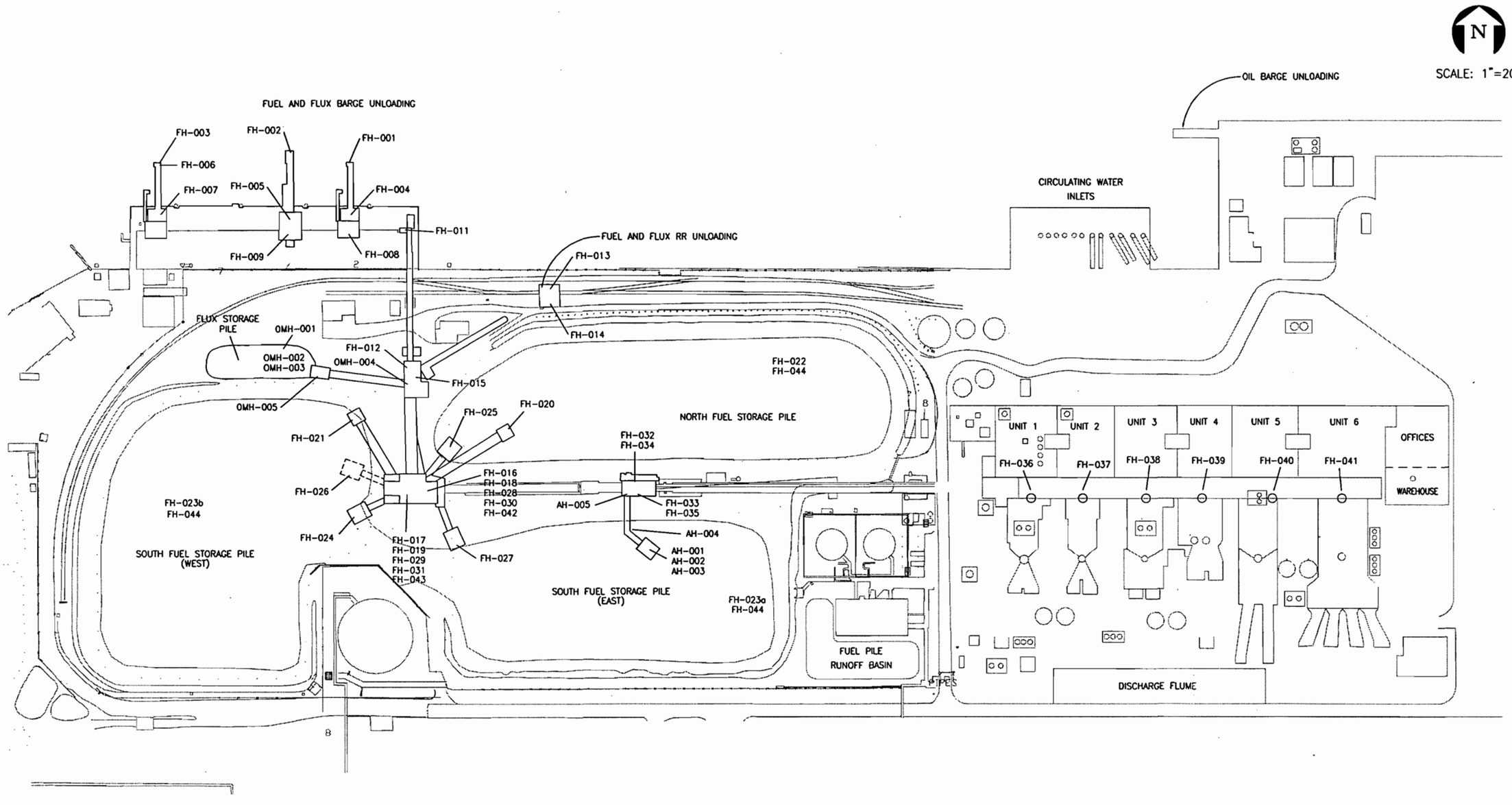


FIGURE II.E.2.2.

F.J. GANNON STATION

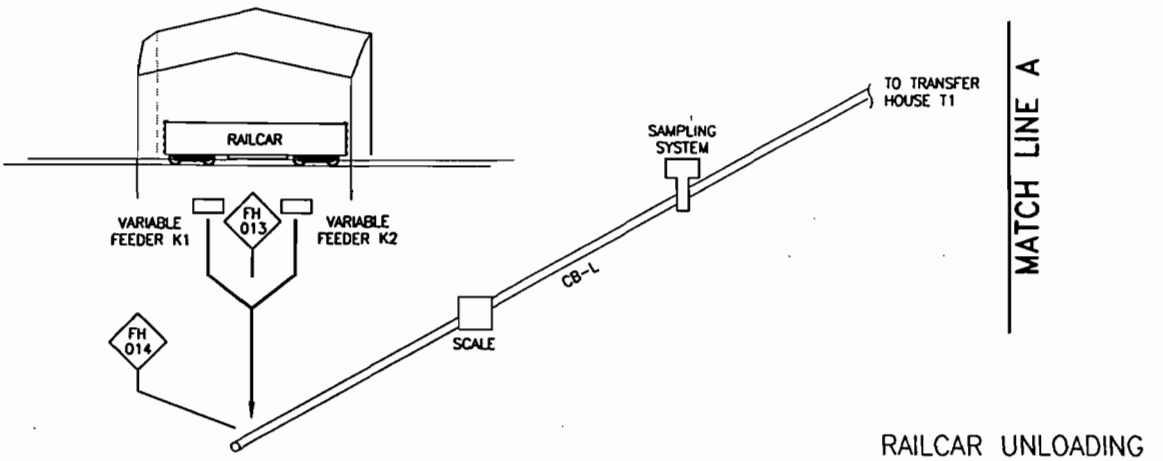
FUEL AND OTHER MATERIAL HANDLING AND STORAGE EMISSION SOURCES

Source: TEC, 1997; ECT, 1997.

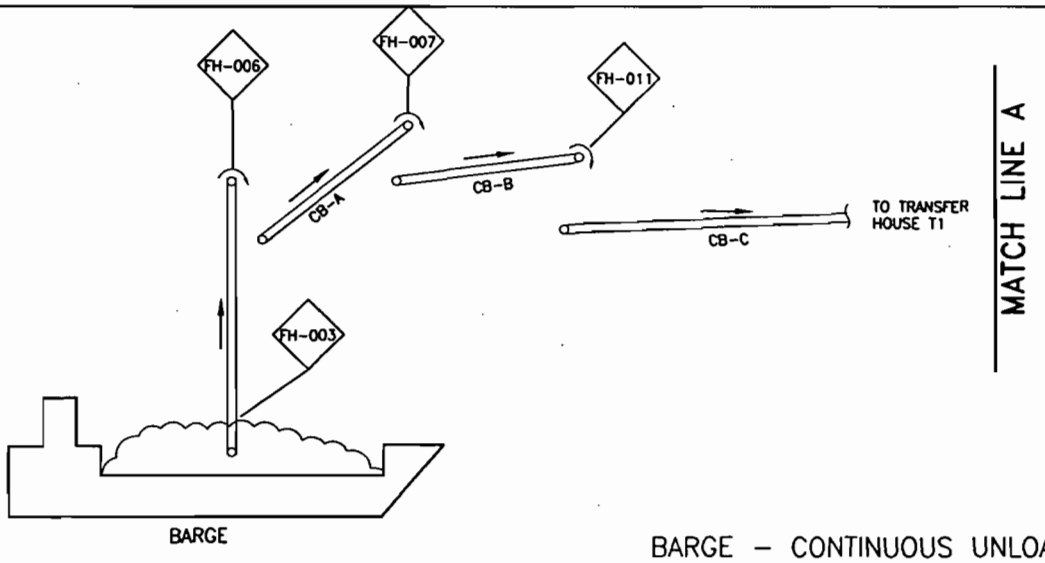
TAMPA ELECTRIC
A TECO ENERGY COMPANY

DOCUMENT II.E.3

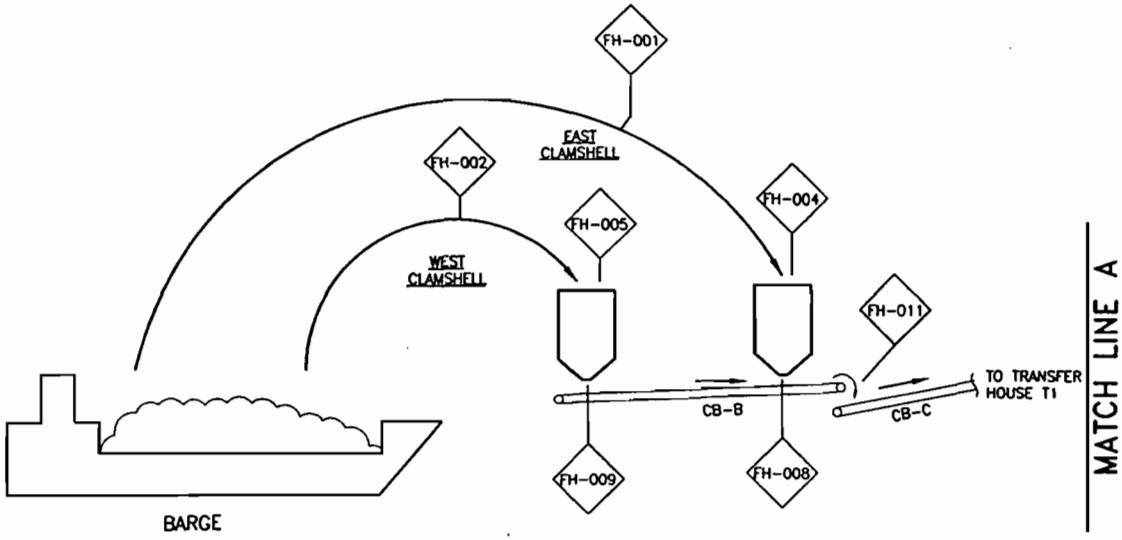
PROCESS FLOW DIAGRAMS



RAILCAR UNLOADING



BARGE – CONTINUOUS UNLOADING



LEGEND

FH-001 EMISSION POINT

BARGE – CLAMSHELL UNLOADING

FIGURE II.E.3.1.

FUEL AND FLUX HANDLING AND STORAGE PROCESS FLOW DIAGRAM, BARGE AND RAILCAR UNLOADING

Source: ECT, 1997.

TAMPA ELECTRIC
A TECO ENERGY COMPANY

LEGEND

DMH 004 — EMISSIONS POINT

– – – – ENCLOSURE

– · – · – MOVING CONVEYOR BELT

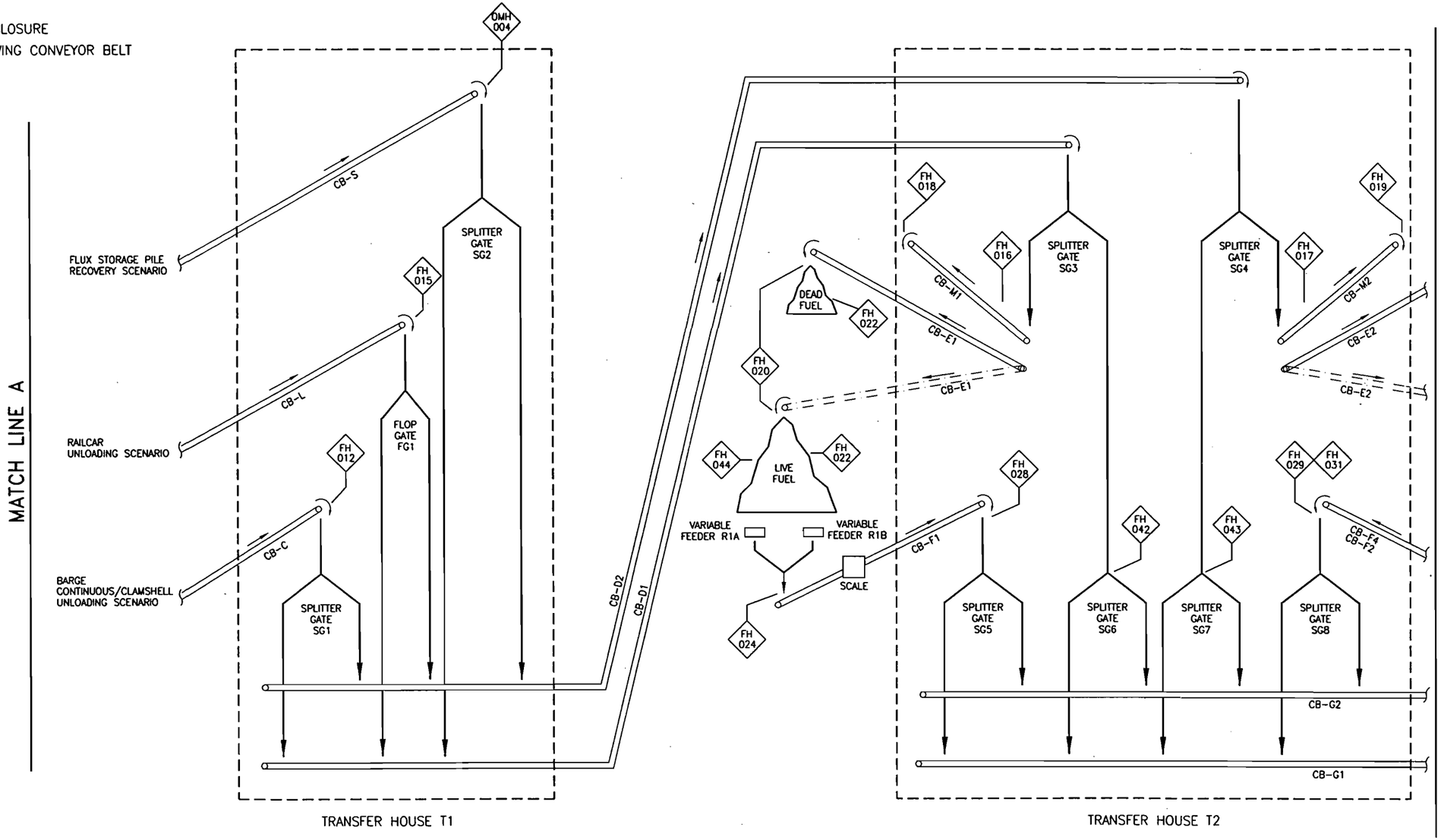


FIGURE II.E.3.2.

F.J. GANNON STATION

FUEL AND FLUX HANDLING AND STORAGE PROCESS FLOW DIAGRAM

Source: ECT, 1997.

TAMPA ELECTRIC
A TECO ENERGY COMPANY

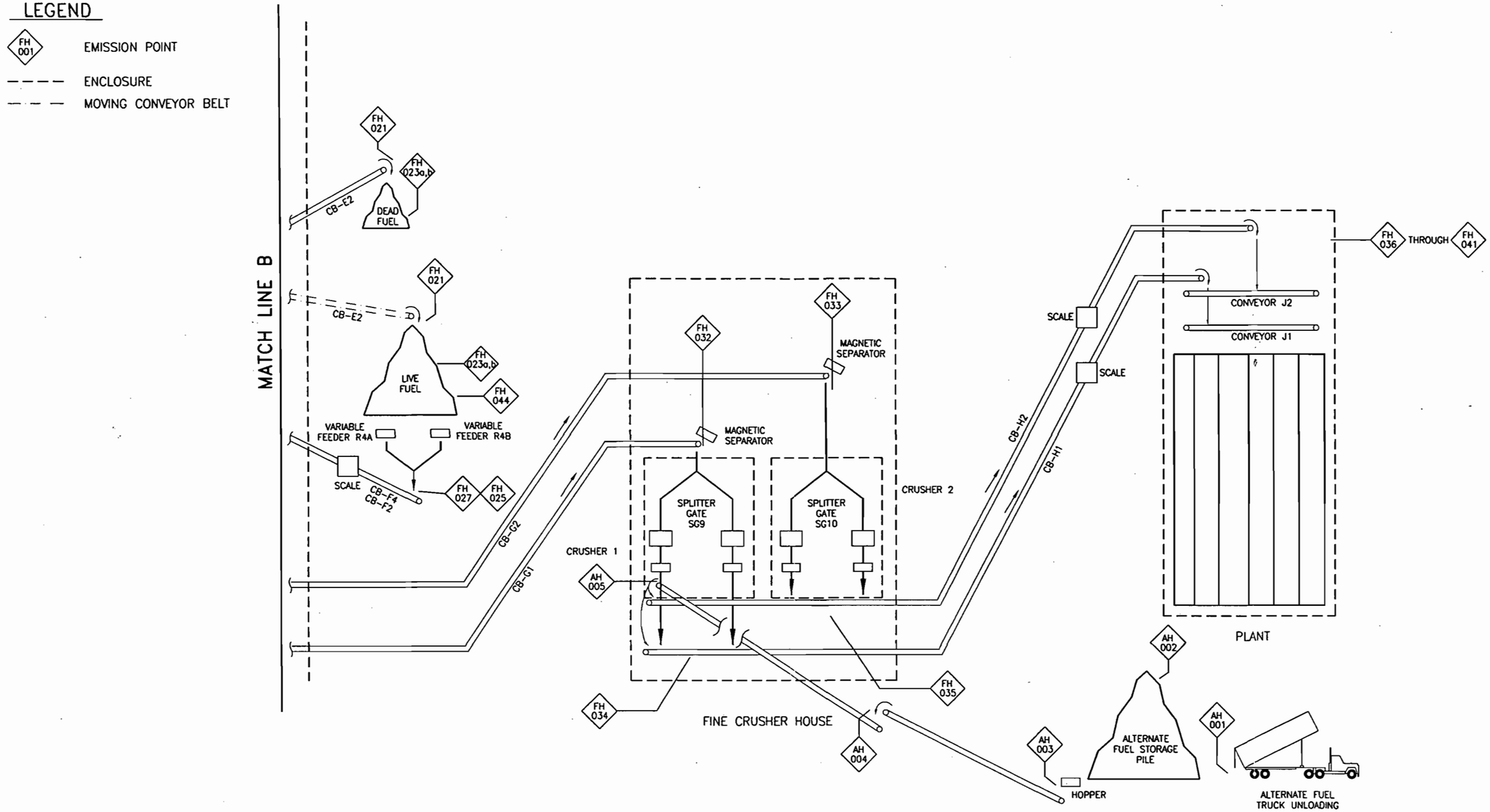


FIGURE II.E.3.3.

F.J. GANNON STATION

FUEL AND FLUX HANDLING AND STORAGE PROCESS FLOW DIAGRAM

Source: ECT, 1997.

TAMPA ELECTRIC
A TECO ENERGY COMPANY

DOCUMENT II.E.4

PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

Unconfined particulate matter emissions that may result from operations include:

- Vehicular traffic on paved and unpaved roads.
- Wind-blown dust from yard areas.
- Periodic abrasive blasting.

The following techniques will be used to prevent unconfined particulate matter emissions on an as needed basis:

- Chemical or water application to:
  - Unpaved roads
  - Unpaved yard areas
- Paving and maintenance of roads, parking areas, and yards.
- Landscaping or planting of vegetation.
- Confining abrasive blasting where possible.
- Other techniques, as necessary.

Table II.E.4.1. Permitted Sources of Unconfined PM Emissions at F.J. Gannon Station

Emission Source Description	Source ID
Barge to East Clamshell	FH-001*
Barge to West Clamshell	FH-002*
Barge to Continuous Unloader	FH-003*
East Clamshell to East Hopper	FH-004*
West Clamshell to West Hopper	FH-005*
Continuous Unloader to Conveyor A	FH-006*
Conveyor A to Continuous Feeder	FH-007*
East Hopper to Conveyor B	FH-008*
West Hopper to Conveyor B	FH-009*
Conveyor B to Conveyor C	FH-011*
Conveyor C to Conveyor D1/D2 (fluxing agent to storage)	FH-012
Railcar to Hopper	FH-013*
Hopper to Conveyor L	FH-014*
Conveyor L to Conveyor D1/D2 (fluxing agent to storage	FH-015
Conveyor D1 to Conveyor M1	FH-016
Conveyor D2 to Conveyor M2	FH-017
Conveyor M1 to Conveyor E1	FH-018
Conveyor M2 to Conveyor E2	FH-019
Conveyor E1 to Storage Pile	FH-020
Conveyor E2 to Storage Pile	FH-021
North Storage Pile	FH-022
East Portion of South Storage Pile	FH-023a
West Portion of South Storage Pile	FH-023b
Underground Reclaim System to Conveyor F1	FH-024
Underground Reclaim System to Conveyor F4	FH-025
Underground Reclaim System to Conveyor F3	FH-026
Underground Reclaim System to Conveyor F2	FH-027
Conveyor F1 to Conveyor G1/G2	FH-028
Conveyor F4 to Conveyor G1/G2	FH-029
Conveyor F3 to Conveyor G1/G2	FH-030
Conveyor F2 to Conveyor G1/G2	FH-031
Conveyor G1 to Hammermill Crusher 1	FH-032
Conveyor G2 to Hammermill Crusher 2	FH-033
Hammermill Crusher 1 to Conveyor H1	FH-034
Hammermill Crusher 2 to Conveyor H2	FH-035
Conveyor D1 to Conveyor G1/G2 (Storage Bypass)	FH-042
Conveyor D2 to Conveyor G1/G2 (Storage Bypass)	FH-043
Storage Pile Maintenance	FH-044
Auxiliary Truck Unloading**	AH-001
Storage Pile to Auxiliary Hopper**	AH-002
Auxiliary Hopper to T Conveyor**	AH-003
T Conveyor to U Conveyor**	AH-004
U Conveyor to Conveyor G1/G2**	AH-005
Truck Dump to Flux Storage Pile	OMH-001

Table II.E.4.1. Permitted Sources of Unconfined PM Emissions at F.J. Gannon Station (Continued, Page 2 of 2)

Emission Source Description	Source ID
Flux Storage Pile Maintenance	OMH-002
Flux Storage Pile	OMH-003
Conveyor S to Conveyor D1/D2	OMH-004
Underground Reclaim System to Conveyor S	OMH-005
Units 1 through 4 Flyash Silo to Tanker Truck	FA-002
Units 5 and 6 Flyash Silo to Tanker Truck	FA-004
Units 5 and 6 Flyash Silo Pugmill	FA-005
Unit 4 Economizer Flyash Silo to Tanker Truck	FA-007

*This equipment may also be used to receive fluxing agents.
**This document is the initial construction permit application for this source. This equipment may also be used to receive fluxing agents.

Source: ECT, 1997.

DOCUMENT II.E.5

FUGITIVE EMISSIONS IDENTIFICATION

IDENTIFICATION OF FUGITIVE EMISSIONS
F.J. GANNON STATION

Fugitive emission sources located at F.J. Gannon Station consist of activities associated with the storage and handling of fuel, flux, and flyash. The following sections discuss how the fugitive emission sources are addressed in the application form.

Fuel Handling and Storage Fugitive Emission Sources

All fuel handling and storage fugitive emission sources are addressed as one emissions unit identified as Emission Unit 9. The equipment comprising this emission unit may also be used to transfer fluxing agents. This emission unit includes fugitive emission sources FH-001 through FH-035, FH-042 through FH-044, and AFH-001 through AFH-005.

Figure II.E.2.1, F.J. Gannon Station Emission Source Identification Key Sheet, provides a description of each fuel handling and storage fugitive emission source.

Flyash Handling and Storage Fugitive Emission Sources

All flyash handling and storage fugitive emission sources are addressed in the Title V Operation Air Permit application as one emissions unit identified as Emission Unit 13. This emission unit includes fugitive emission sources FA-002, FA-004, FA-005, and FA-007.

Other Material Handling and Storage Fugitive Emission Sources

All exclusive flux handling and storage point and fugitive emission sources are addressed in the Title V Operation Air Permit application as one emissions unit identified as Emission Unit 14. This emission unit includes fugitive emission sources OMH-001 through OMH-005.

DOCUMENT II.E.6

SUPPLEMENTAL INFORMATION FOR CONSTRUCTION PERMIT APPLICATION

DOCUMENT II.E.6.1

SUMMARY OF SOLID FUEL HANDLING BELT SPEED CHANGES AND NONSTACK EMISSION POINT HEIGHTS

DOC.II.E.6.1 - SUMMARY OF SOLID FUEL HANDLING BELTSPEED CHANGES AND NONSTACK EMISSION POINT HEIGHTS

Emission Point Description	Emission Point ID	Currently Permitted (tph)	Proposed (tph)	Change (tph)	Nonstack Emission Point Height (m)
Barge to clamshell	FH-002	1500	2300	800	2.0
Barge to continuous unloader	FH-003	1500	2300	800	2.0
Clamshell to barge unloading hopper	FH-005	1500	2300	800	2.0
Continuous unloader to conveyor A	FH-006	1500	2300	800	15.0
Conveyor A to continuous feeder	FH-007	1500	2300	800	2.0
Barge unloading hopper to conveyor B	FH-009	1500	2300	800	1.0
Conveyor B to conveyor C	FH-011	3000	2300	-700	9.1
Conveyor C to conveyors D1, D2	FH-012	3000	2300	-700	9.1
Rail car to rail unloading hopper	FH-013	1500	2300	800	2.0
Rail unloading hopper to conveyor L	FH-014	1500	2300	800	1.0
Conveyor L to conveyors D1, D2	FH-015	1500	2300	800	9.1
Conveyor D1 to conveyor M1	FH-016	1500	2300	800	12.1
Conveyor D2 to conveyor M2	FH-017	1500	2300	800	12.1
Conveyor M1 to conveyor E1	FH-018	1500	2300	800	15.0
Conveyor M2 to conveyor E2	FH-019	1500	2300	800	15.0
Conveyor E1 to fuel storage pile	FH-020	1500	2300	800	15.0
Conveyor E2 to fuel storage pile	FH-021	1500	2300	800	15.0
Fuel storage pile	FH-022/023	N/A	N/A	N/A	15.0
Underground reclaim to conveyor F1	FH-024	1600	1600	0	1.0
Underground reclaim to conveyor F4	FH-025	1600	1600	0	1.0
Underground reclaim to conveyor F3	FH-026	1600	1600	0	1.0
Underground reclaim to conveyor F2	FH-027	1600	1600	0	1.0
Conveyor F1 to conveyors G1, G2	FH-028	1600	1600	0	1.0
Conveyor F4 to conveyors G1, G2	FH-029	1600	1600	0	1.0
Conveyor F3 to conveyors G1, G2	FH-030	1600	1600	0	1.0
Conveyor F2 to conveyors G1, G2	FH-031	1600	1600	0	1.0
Conveyor G1 to crushers	FH-032	1600	1600	0	6.1
Conveyor G2 to crushers	FH-033	1600	1600	0	6.1
Crushers to conveyor H1	FH-034	1600	1600	0	1.0
Crushers to conveyor H2	FH-035	1600	1600	0	1.0
Conveyor H1 to bunkering	FH-036/041	1600	1600	0	N/A
Conveyor H2 to bunkering	FH-036/041	1600	1600	0	N/A
Conveyor D1 to conveyor G1, G2	FH-042	1500	2300	800	9.1
Conveyor D2 to conveyor G1, G2	FH-043	1500	2300	800	9.1
Dozer operations of storage piles	FH-044	N/A	N/A	N/A	15.0
Truck unloading - auxiliary	AH-001	0	400	400	3.1
Storage pile to auxiliary hopper	AH-002	0	400	400	3.1
Auxiliary hopper to conveyor T	AH-003	0	400	400	3.1
Conveyor T to conveyor U	AH-004	0	400	400	3.1
Conveyor U to conveyors G1, G2	AH-005	0	400	400	3.1

Notes:

1. Maximum fuel unloading rate will be 4,000,000 tpy, using any combination of unloaders.
2. Maximum fuel unloading rate from barge will be 2,300 tph, using any combination of unloaders.
3. Maximum fuel unloading rate from rail car will be 2,300 tph.
4. Maximum fuel stacking rate will be 4,600 tph.
5. Maximum fuel reclaiming rate will be 1,600 tph using any combination of reclaimers.
6. Maximum fuel crushing and bunkering rate will be 1,600 tph.
7. Maximum auxiliary reclaiming rate will be 362,025 tpy.
8. Maximum auxiliary reclaiming rate will be 400 tph.

G-TEC97.1/BSPEED.WK4.1--062497

DOCUMENT II.E.6.2

PM_{10} EMISSION SUMMARY AND DEMONSTRATION OF NO PREVENTION OF SIGNIFICANT DETERIORATION APPLICABILITY

DOC.II.E.6.2 - SUMMARY OF PM10 EMISSION CHANGES

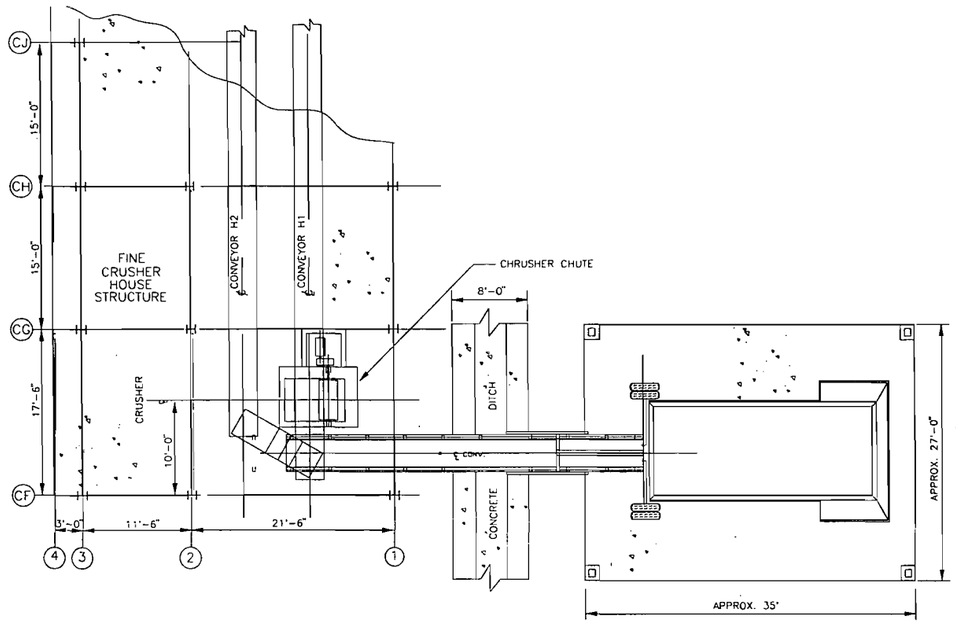
Emission Point Description	PM10 Emission			
	Emission Point ID	Actual (tpy)	Future Actual (tpy)	Change (tpy)
Barge to clamshell	FH-002	0.06	0.02	-0.04
Barge to continuous unloader	FH-003	0.06	0.02	-0.04
Clamshell to barge unloading hopper	FH-005	0.06	0.02	-0.04
Continuous unloader to conveyor A	FH-006	0.03	0.02	-0.01
Conveyor A to continuous feeder	FH-007	0.03	0.02	-0.01
Barge unloading hopper to conveyor B	FH-009	0.03	0.02	-0.01
Conveyor B to conveyor C	FH-011	0.06	0.09	0.03
Conveyor C to conveyors D1, D2	FH-012	0.04	0.09	0.05
Rail car to rail unloading hopper	FH-013	0.06	0.00	-0.06
Rail unloading hopper to conveyor L	FH-014	0.03	0.00	-0.03
Conveyor L to conveyors D1, D2	FH-015	0.03	0.00	-0.03
Conveyor D1 to conveyor M1	FH-016	0.03	0.05	0.02
Conveyor D2 to conveyor M2	FH-017	0.03	0.05	0.02
Conveyor M1 to conveyor E1	FH-018	0.03	0.05	0.02
Conveyor M2 to conveyor E2	FH-019	0.03	0.05	0.02
Conveyor E1 to fuel storage pile	FH-020	0.03	0.05	0.02
Conveyor E2 to fuel storage pile	FH-021	0.03	0.05	0.02
Fuel storage pile	FH-022/023	0.03	0.03	0
Underground reclaim to conveyor F1	FH-024	0.02	0.03	0.01
Underground reclaim to conveyor F4	FH-025	0.02	0.03	0.01
Underground reclaim to conveyor F3	FH-026	0.00	0.00	0.00
Underground reclaim to conveyor F2	FH-027	0.02	0.03	0.01
Conveyor F1 to conveyors G1, G2	FH-028	0.02	0.03	0.01
Conveyor F4 to conveyors G1, G2	FH-029	0.02	0.03	0.01
Conveyor F3 to conveyors G1, G2	FH-030	0.00	0.00	0.00
Conveyor F2 to conveyors G1, G2	FH-031	0.02	0.03	0.01
Conveyor G1 to crushers	FH-032	0.03	0.05	0.02
Conveyor G2 to crushers	FH-033	0.03	0.05	0.02
Crushers to conveyor H1	FH-034	0.03	0.05	0.02
Crushers to conveyor H2	FH-035	0.03	0.05	0.02
Conveyor H1 to bunkering	FH-036/041	2.97	2.97	0.00
Conveyor H2 to bunkering	FH-036/041	2.97	2.97	0.00
Conveyor D1 to conveyor G1, G2	FH-042	0.00	0.00	0.00
Conveyor D2 to conveyor G1, G2	FH-043	0.00	0.00	0.00
Dozer operations of storage piles	FH-044	2.17	2.17	0.00
Truck unloading - auxiliary	AH-001	0.00	0.01	0.01
Storage pile to auxiliary hopper	AH-002	0.00	0.01	0.01
Auxiliary hopper to conveyor T	AH-003	0.00	0.01	0.01
Conveyor T to conveyor U	AH-004	0.00	0.01	0.01
Conveyor U to conveyors G1, G2	AH-005	0.00	0.01	0.01
PM10 Emission Summary		9.05	9.17	0.12

Notes:

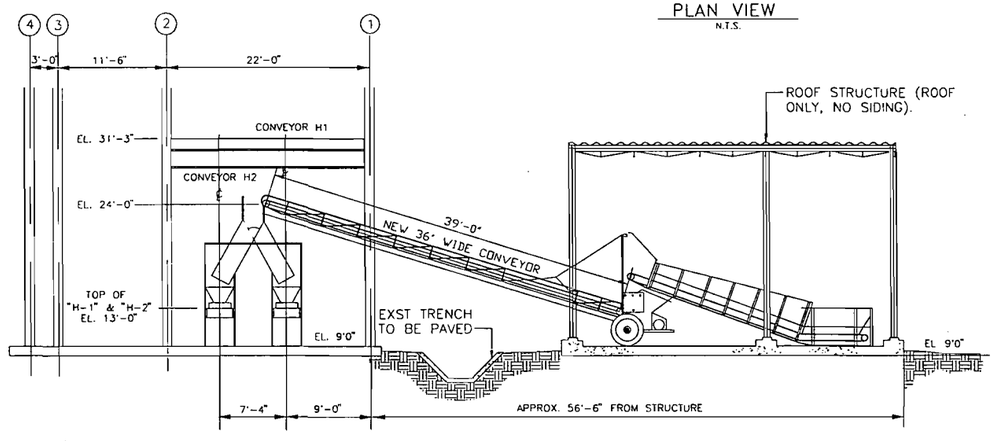
1. Actual emissions based on average of 1995 and 1996 actual fuel usage equally divided among fuel transfer points.
2. Future actual emissions based on 4,000,000 tpy of fuel conservatively assumed to be off-loaded from barge and then equally divided among fuel transfer points.
3. Future actual emissions based on 362,025 tpy of alternate fuel usage.
4. See Appendix B for emission calculation detail.

DOCUMENT II.E.6.3

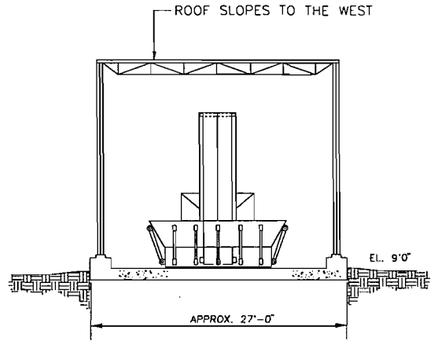
AUXILIARY RECLAIMING SYSTEM DRAWINGS



PLAN VIEW
N.T.S.



ELEVATION LOOKING EAST
N.T.S.



END ELEVATION
N.T.S.

NOTES:

1. ALL DIMENSIONS ARE APPROXIMATE.
2. ROOF STRUCTURE NOT SHOWN IS PLAN VIEW FOR CLARITY.
3. FROM GRADE ELEVATION TO BOTTOM SIDE OF ROOF 20' CLEAR MIN.

GENERAL PLAN

J:\DRAWINGS\GANNON\

REV.	DESCRIPTION OF CHANGE	APPR.	DATE
B	CEMENTED DITCH AND SLOPED ROOF	TNW	3-3-97
A	SHORTEN BOOM	TNW	2-26-97

TAMPA ELECTRIC
A TECO ENERGY COMPANY

GANNON STATION
ALTERNATE FUELS RECLAIMER
PRELIMINARY ARRANGEMENT

DESIGNED BY	CHECKED BY	APPROVED BY
RMG	TNW	RLB
DATE 12/96	JOB NO. G22-77	
FILE NAME GAFR2		DWG. NO. G-2A

DOCUMENT II.E.6.4

FUEL CRUSHER REPLACEMENT
NSPS NONAPPLICABILITY

NEW SOURCE PERFORMANCE STANDARDS APPLICABILITY

New Source Performance Standards (NSPS) exist for a variety of stationary source classifications. The Standards of Performance for Coal Preparation Plants (40 CFR 60.250, et. seq., Subpart Y) apply to any coal preparation plant that commences construction or modification after October 24, 1974. The F.J. Gannon Station fuel crushing equipment is a defined coal preparation plant because coal crushing is specifically included as an applicable coal preparation plant operation. However, per the discussion below, replacing two of the four existing crushers is not NSPS-affected because the replacement is not a modification.

A modification under NSPS as defined at 40 CFR 60.14(a) is any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies. Emission rate is expressed as kilograms per hour (kg/hr) of any pollutant discharged for which a standard applies. Opacity is expressed as percent. The crusher replacement will not increase the maximum particulate matter emission rate from the coal preparation plant because the maximum crushing capacity of the plant will remain unchanged at 1,600 tph. Similarly, opacity will not increase because crushing capacity will not increase and because the more restrictive Reasonably Available Control Technology (RACT) standard of 5 percent will continue to apply. Because the crusher replacement will not cause an emissions increase, the replacement is not a modification and NSPS does not apply.

DOCUMENT III.I.3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

CYCLONE COLLECTORS

Emission Unit:	Units 1 through 6 Fuel Bunkers
Emission Point ID No.:	FH-036 through FH-041
Manufacturer:	American Air Filter
Model No.:	Type D Roto-Clone
Pressure Drop (in H_2O):	<2.0
Inlet Temperature (°F):	Ambient
Outlet Temperature (°F):	Ambient
Inlet Air Flow Rate (acfm):	9,600 each unit, except 5,400 Unit 5
Control Efficiency (% removal):	75

DOCUMENT III.I.7

OPERATION AND MAINTENANCE PLAN

E.U.8., UNIT NO. 8—FUEL BUNKER ROTO-CLONES

OPERATION AND MAINTENANCE FOR PARTICULATE CONTROL

A. Process System Performance Parameters:

1. Source designators: Units 1-6 fuel bunkers
2. Control device manufacturer: American Air Filter Company
3. Model name and number: Roto-Clone Dynamic Precipitator Type D
4. Design flow rate: 9,600 ACFM, Units 1-4 and 6
   5,400 ACFM, Unit 5.
5. Efficiency rating at design capacity: 75.0 percent
6. Process controlled by collection system: Units 1-6 fuel bunkers
7. Fuel handling rate: 1,600 tpy for each of the six fuel bunkers
8. Operation schedule: 8,760 hrs/yr (24 hrs/day, 7 days/week, 52 weeks/yr)

B. The following observations, checks, and operations apply to this source and shall be conducted on the schedule specified:

Quarterly:

1. Motor Inspection

Annually:

1. Piping Inspection
2. Fan Inspection

C. Records

Records of inspections, maintenance, and performance parameters shall be retained for a minimum of 2 years, and made available to the Florida Department of Environmental Protection and the Environmental Protection Commission of Hillsborough County upon request.

E.U.9., UNIT NO. 9—FUEL HANDLING AND STORAGE

OPERATION AND MAINTENANCE FOR PARTICULATE CONTROL

A. Process System Performance Parameters

1. For all sources covered under this permit, permitted operation schedule: 24 hrs/day, 7 days/week, 52 weeks/yr.
2. Equipment data:
   Conveyor hoods: corrugated aluminum
   Transfer point enclosures: carbon steel
3. Wet dust suppression:
   Manufacturer: Martin Marietta

B. Inspection and Maintenance Procedures:

The fuel yard particulate control equipment receives regular preventative maintenance as follows:

Conveyor enclosures:

1. Daily random visual inspections of conveyor hoods.
2. Daily random visual inspections of the transfer points chute work.

Dust supression system:

1. Quarterly inspection of system for water leaks.
2. Quarterly inspection of spray nozzles.

The pumps, tanks, etc., that makeup the dust suppression system undergo normal maintenance including lubrication, flushing, and draining.

Should these procedures indicate repairs are necessary, maintenance job requests are initiated. All records are maintained for a minimum of 2 years.

APPENDIX A

DISPERSION MODELING RESULTS

F.J. GANNON STATION

PM_{10} DISPERSION MODELING RESULTS

Short- and long-term dispersion modeling of F.J. Gannon Station PM_{10} emission sources was conducted using the latest version of the Industrial Source Complex 3 (ISC3) model. The modeling results, which are presented in Table A, demonstrate that PM_{10} emissions from the F.J. Gannon Station will not cause or contribute to a violation of the National or Florida Ambient Air Quality Standards (AAQS). This conclusion provides reasonable assurance to FDEP that the proposed modification to the F.J. Gannon Station fuel yard will be in compliance with all applicable requirements.

The short-term version (ISCST3) of the model was used exclusively for this demonstration. The emissions inventory for the short-term (24-hour) dispersion modeling was based on:

- Fuel is unloaded from barges at 2,300 tons per hour (tph), equally divided between the continuous and west clamshell unloaders.
- Fuel is unloaded from railcars at 2,300 tph.
- Barge and railcar unloading occur simultaneously.
- Fuel is stacked at 4,600 tph, equally divided between two stackers operating simultaneously.
- Fuel is reclaimed at 1,600 tph, equally divided among three reclaimers operating simultaneously.
- Fuel is crushed at 1,600 tph, equally divided between two crushing lines operating simultaneously.

The emissions inventory for the long-term (annual) dispersion modeling was based on all emission sources operating at maximum capacity and 4,000,000 tons per year of fuel transferred through each fuel yard emission source.

As noted, the dispersion modeling was conducted using the latest version of ISCST3. The U.S. Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection (FDEP) have approved ISCST3 for dispersion modeling to provide reasonable assurance of compliance with AAQS. The modeling was conducted using the default options, consistent with EPA and FDEP guidance. Five years of meteorological data, from 1987 through 1991, were used in the modeling, as required by agency guidelines. The meteorological input data were surface data collected at Tampa International Airport and concurrent mixing height data collected at Ruskin.

Table A. Modeled Ambient PM_{10} Impacts - F.J. Gannon Station - All Facility PM_{10} Emission Sources - Modified Fuel Yard

Year	Highest Second-Highest 24-Hour Average Ambient Concentration				Highest Annual Average Ambient Concentration			
	Modeled Concentration (ug/m^3)	Background (ug/m^3)	Total (ug/m^3)	24-Hour Standard (ug/m^3)	Modeled Concentration (ug/m^3)	Background (ug/m^3)	Total (ug/m^3)	24-Hour Standard (ug/m^3)
1987	49.5	52	101.5	150	6.8	27	33.8	50
1988	60.6	52	112.6	150	11.9	27	38.9	50
1989	75.9	52	127.9	150	12.3	27	39.3	50
1990	65.3	52	117.3	150	6.9	27	33.9	50
1991	47.2	52	99.2	150	7.4	27	34.4	50
Maximum	75.9	52	127.9	150	12.3	27	39.3	50

Notes:

1. Background based on 1995 data collected at FDEP monitoring site at 5012 Causeway Blvd., Tampa.
2. 24-hour modeled concentrations base on the following assumptions:
   a. Fuel is unloaded from barges at 2,300 tph, equally divided between the continuous and west clamshell unloaders operating simultaneously.
   b. Fuel is unloaded from railcars at 2,300 tph.
   c. Barge and railcar unloading occur simultaneously.
   d. Fuel is stacked at 4,600 tph, equally divided between two stackers operating simultaneously.
   e. Fuel is reclaimed at 1,600 tph, equally divided among three reclaimers operating simultaneously.
   f. Fuel is crushed at 1,600 tph, equally divided between two crushing lines operating simultaneously.
3. Annual modeled concentration based on all facility PM_{10} emission sources operating at maximum capacity and 4,000,000 tpy of solid fuel transferred through each fuel yard emission source.

APPENDIX B

EMISSION CALCULATION SPREADSHEETS

APPENDIX B.1

FUTURE ACTUAL PM_{10} EMISSION CALCULATION SPREADSHEETS

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–002

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Barge to West Clamshell (Spillage)

Emission Control Method(s)/ID No.(s): Dust Suppressant

Emission Point ID: FH–002

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	1,150	4,000,000	6.5	95.0	0.02	0.04

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emissions rates assume west clamshell and continuous unloaders operating simultaneously, each at 1,150 tph for a total unloading rate of 2,300 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–003

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Barge to Continuous Unloader (Spillage)

Emission Control Method(s)/ID No.(s): Barge Enclosure and Dust Suppressant

Emission Point ID: FH–003

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	1,150	4,000,000	6.5	95.0	0.02	0.04

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3–10, Fugitive Emissions From Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emissions rates assume west clamshell and continuous unloaders operating simultaneously, each at 1,150 tph for a total unloading rate of 2,300 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–005

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – West Clamshell to West Hopper

Emission Control Method(s)/ID No.(s): Side Enclosure and Dust Suppressant

Emission Point ID: FH–005 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	1,150	4,000,000	6.5	95.0	0.02	0.04

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3–10, Fugitive Emissions From Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emissions rates assume west clamshell and continuous unloaders operating simultaneously, each at 1,150 tph for a total unloading rate of 2,300 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–006

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Continuous Unloader to Conveyor A

Emission Control Method(s)/ID No.(s): Enclosure and Dust Suppressant

Emission Point ID: FH–006 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	1,150	4,000,000	6.5	95.0	0.02	0.04

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3–16, Fugitive Emissions From Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emissions rates assume west clamshell and continuous unloaders operating simultaneously, each at 1,150 tph for a total unloading rate of 2,300 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–007

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor A to Continuous Feeder

Emission Control Method(s)/ID No.(s): Enclosure and Dust Suppressant

Emission Point ID: FH–007

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	1,150	4,000,000	6.5	95.0	0.02	0.04

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3–16, Fugitive Emissions From Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emissions rates assume west clamshell and continuous unloaders operating simultaneously, each at 1,150 tph for a total unloading rate of 2,300 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–009

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – West Hopper to Conveyor B

Emission Control Method(s)/ID No.(s): Enclosure and Dust Suppressant

Emission Point ID: FH–009 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	1,150	4,000,000	6.5	95.0	0.02	0.04

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3–16, Fugitive Emissions from Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emissions rates assume west clamshell and continuous unloaders operating simultaneously, each at 1,150 tph for a total unloading rate of 2,300 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–011

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor B to Conveyor C

Emission Control Method(s)/ID No.(s): Enclosure and Dust Suppressant

Emission Point ID: FH–011

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	4,000,000	6.5	90.0	0.10	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3–16, Fugitive Emissions From Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–012

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor C to Conveyor D1/D2

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–012 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	4,000,000	6.5	90.0	0.10	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling for Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–013

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Rail Car to Hopper

Emission Control Method(s)/ID No.(s): Enclosure and Dust Suppressant

Emission Point ID: FH–013 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed	Actual Quantity Transferred		Material Moisture Content	Control Efficiency	Actual PM_{10} Emission Rates	
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	2,300	4,000,000	6.5	95.0	0.05	0.04

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3–16, Fugitive Emissions From Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–014

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Hopper to Conveyor L

Emission Control Method(s)/ID No.(s): Enclosure and Dust Suppressant

Emission Point ID: FH–014

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	4,000,000	6.5	95.0	0.05	0.04

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3–16, Fugitive Emissions From Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–015

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor L to Conveyor D1/D2

Emission Control Method(s)/ID No.(s): Enclosure and Dust Suppressant

Emission Point ID: FH–015 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	4,000,000	6.5	95.0	0.05	0.04

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3–16, Fugitive Emissions From Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–016

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor D1 to Conveyor M1

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–016 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	4,000,000	6.5	90.0	0.10	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling for Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emissions rates assume both stackers operating simultaneously, each at 2,300 tph for a total rate of 4,600 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–017

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor D2 to Conveyor M2

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–017 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	4,000,000	6.5	90.0	0.10	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emissions rates assume both stackers operating simultaneously, each at 2,300 tph for a total rate of 4,600 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–018

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor M1 to Conveyor E1

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–018 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	4,000,000	6.5	90.0	0.10	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emissions rates assume both stackers operating simultaneously, each at 2,300 tph for a total rate of 4,600 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–019

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor M2 to Conveyor E2

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–019 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	4,000,000	6.5	90.0	0.10	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emissions rates assume both stackers operating simultaneously, each at 2,300 tph for a total rate of 4,600 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–020

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor E1 to Storage Pile

Emission Control Method(s)/ID No.(s): Dust Suppressant

Emission Point ID: FH–020 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	4,000,000	6.5	90.0	0.10	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emissions rates assume both stackers operating simultaneously, each at 2,300 tph for a total rate of 4,600 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–021

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor E2 to Storage Pile

Emission Control Method(s)/ID No.(s): Dust Suppressant

Emission Point ID: FH–021 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	4,000,000	6.5	90.0	0.10	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emissions rates assume oth stackers operating simultaneously,

each at 2,300 tph for a total rate of 4,600 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–022

EMISSION SOURCE TYPE

STORAGE PILE WINDBLOWN FUGITIVE DUST EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fuel Storage – North Storage Pile
Emission Control Method(s)/ID No.(s):	Application of Chemical Dust Suppressant
Emission Point ID:	FH–022
Transfer Point ID(s):	

EMISSION ESTIMATION EQUATIONS

Estimates of fugitive PM_{10} were made using procedures contained in AP–42, Section 13.2.5, Industrial Wind Erosion.

Source: Section 13.2.5 – Industrial Wind Erosion, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Threshold Friction Velocity: 1.12 m/s

Control Efficiency: 90 pct

Pile Length (m): 215 Pile Width (m): 70 Pile Height (m): 21 Surface Area (m^2) 16,758

Meteorological Period	Friction Velocity (m/s)	Emission Potential (g/m^2)	Affected Pile Surface Area (pct)	Affected Area (m^2)	Actual PM_{10} Emission Rates (lb/hr)	(tpy)
14	1.30	6.38	4	670.3	0.12	0.0005
30	1.13	0.26	4	670.3	<0.01	<0.0001
37	1.33	7.81	4	670.3	0.14	0.0003
65	1.48	16.52	14	2,346.1	1.07	0.0021
65	1.80	43.82	4	670.3	0.81	0.0016
77	1.30	6.38	4	670.3	0.12	0.0002
90	1.33	7.81	4	670.3	0.14	0.0003
			Maximum Per Period		1.88	N/A
			Total		N/A	0.0050

SOURCES OF INPUT DATA

Parameter	Data Source
Threshold Friction Velocity (m/s)	Uncrusted coal pile, Table 13.2.5–2., AP–42, January 1995.
Control Efficiency (pct)	Table 3.2.17–2, Workbook on Estimation and Dispersion Modeling for Fugitive Particulate Sources, UARG, September 1991.
Fuel Pile Dimensions (m)	Estimated: ECT, 1997.
Pile Surface Area (m^2)	Calculated: ECT, 1997.
Meteorological Periods	1986 NWS data, processed per AP–42, ECT, 1997.
Friction Velocity (m/s)	Equation, Section 13.2.5, AP–42, January 1995.
Potential Emission (g/m^2)	Equation, Section 13.2.5, AP–42, January 1995.
Affected Pile Surface Area (pct)	Table 13.2.5–3., Section 13.2.5, AP–42, January 1995.
Affected Area	Calculated: ECT, 1997.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–023a

EMISSION SOURCE TYPE

STORAGE PILE WINDBLOWN FUGITIVE DUST EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fuel Storage – East Portion of South Storage Pile		
Emission Control Method(s)/ID No.(s):	Application of Chemical Dust Suppressant		
Emission Point ID:	FH–023a	Transfer Point ID(s):	

EMISSION ESTIMATION EQUATIONS

Estimates of fugitive PM_{10} were made using procedures contained in AP–42, Section 13.2.5, Industrial Wind Erosion.

Source: Section 13.2.5 – Industrial Wind Erosion, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Threshold Friction Velocity:	1.12 m/s		Control Efficiency:	90 pct			
Pile Length (m):	170	Pile Width (m):	91	Pile Height (m):	21	Surface Area (m^2)	16,754

Meteorological Period	Friction Velocity (m/s)	Emission Potential (g/m^2)	Affected Pile Surface Area (pct)	Affected Area (m^2)	Actual PM_{10} Emission Rates (lb/hr)	(tpy)
14	1.30	6.38	4	670.2	0.12	0.0005
30	1.13	0.26	4	670.2	<0.01	<0.0001
37	1.33	7.81	4	670.2	0.14	0.0003
65	1.48	16.52	14	2,345.5	1.07	0.0021
65	1.80	43.82	4	670.2	0.81	0.0016
77	1.30	6.38	4	670.2	0.12	0.0002
90	1.33	7.81	4	670.2	0.14	0.0003
			Maximum Per Period		1.88	N/A
			Total		N/A	0.0050

SOURCES OF INPUT DATA

Parameter	Data Source
Threshold Friction Velocity (m/s)	Uncrusted coal pile, Table 13.2.5–2., AP–42, January 1995.
Control Efficiency (pct)	Table 3.2.17–2, Workbook on Estimation and Dispersion Modeling for Fugitive Particulate Sources, UARG, September 1991.
Fuel Pile Dimensions (m)	Estimated: ECT, 1997.
Pile Surface Area (m^2)	Calculated: ECT, 1997.
Meteorological Periods	1986 NWS data, processed per AP–42, ECT, 1997.
Friction Velocity (m/s)	Equation, Section 13.2.5, AP–42, January 1995.
Potential Emission (g/m^2)	Equation, Section 13.2.5, AP–42, January 1995.
Affected Pile Surface Area (pct)	Table 13.2.5–3., Section 13.2.5, AP–42, January 1995.
Affected Area	Calculated: ECT, 1997.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–023b

EMISSION SOURCE TYPE

STORAGE PILE WINDBLOWN FUGITIVE DUST EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Storage – West Portion of South Storage Pile

Emission Control Method(s)/ID No.(s): Application of Chemical Dust Suppressant

Emission Point ID: FH–023b

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Estimates of fugitive PM_{10} were made using procedures contained in AP–42, Section 13.2.5, Industrial Wind Erosion.

Source: Section 13.2.5 – Industrial Wind Erosion, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Threshold Friction Velocity: 1.12 m/s

Control Efficiency: 90 pct

Pile Length (m): 140

Pile Width (m): 125

Pile Height (m): 21

Surface Area (m^2): 18,855

Meteorological Period	Friction Velocity (m/s)	Emission Potential (g/m^2)	Affected Pile Surface Area (pct)	Affected Area (m^2)	Actual PM_{10} Emission Rates (lb/hr)	(tpy)
14	1.30	6.38	4	754.2	0.13	0.0003
30	1.13	0.26	4	754.2	0.01	<0.0001
37	1.33	7.81	4	754.2	0.16	0.0003
65	1.48	16.52	14	2,639.6	1.20	0.0024
65	1.80	43.82	4	754.2	0.91	0.0018
77	1.30	6.38	4	754.2	0.13	0.0003
90	1.33	7.81	4	754.2	0.16	0.0003
			Maximum Per Period		2.11	N/A
			Total		N/A	0.0054

SOURCES OF INPUT DATA

Parameter	Data Source
Threshold Friction Velocity (m/s)	Uncrusted coal pile, Table 13.2.5–2., AP–42, January 1995.
Control Efficiency (pct)	Table 3.2.17–2, Workbook on Estimation and Dispersion Modeling for Fugitive Particulate Sources, UARG, September 1991.
Fuel Pile Dimensions (m)	Estimated: ECT, 1997.
Pile Surface Area (m^2)	Calculated: ECT, 1997.
Meteorological Periods	1986 NWS data, processed per AP–42, ECT, 1997.
Friction Velocity (m/s)	Equation, Section 13.2.5, AP–42, January 1995.
Potential Emission (g/m^2)	Equation, Section 13.2.5, AP–42, January 1995.
Affected Pile Surface Area (pct)	Table 13.2.5–3., Section 13.2.5, AP–42, January 1995.
Affected Area	Calculated: ECT, 1997.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–024

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Underground Reclaim System to Conveyor F1

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant

Emission Point ID: FH–024

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	400	4,000,000	6.5	90.0	0.02	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emissions rates assume 4 relaimers operating simultaneously, each at 400 tph for a total rate of 1,600 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–025

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Underground Reclaim System to Conveyor F4

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant

Emission Point ID: FH–025

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed	Actual Quantity Transferred		Material Moisture Content	Control Efficiency	Actual PM_{10} Emission Rates	
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	400	4,000,000	6.5	90.0	0.02	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emissions rates assume 4 relaimers operating simultaneously, each at 400 tph for a total rate of 1,600 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–026

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Underground Reclaim System to Conveyor F3

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant

Emission Point ID: FH–026 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed	Actual Quantity Transferred		Material Moisture Content	Control Efficiency	Actual PM_{10} Emission Rates	
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	400	4,000,000	6.5	90.0	0.02	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emissions rates assume 4 relaimers operating simultaneously, each at 400 tph for a total rate of 1,600 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–027

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Underground Reclaim System to Conveyor F2

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant

Emission Point ID: FH–027

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	400	4,000,000	6.5	90.0	0.02	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emissions rates assume 4 relaimers operating simultaneously, each at 400 tph for a total rate of 1,600 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–028

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor F1 to Conveyor G1/G2

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–028

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	400	4,000,000	6.5	90.0	0.02	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emissions rates assume 4 relaimers operating simultaneously, each at 400 tph for a total rate of 1,600 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–029

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor F4 to Conveyor G1/G2

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–029 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	400	4,000,000	6.5	90.0	0.02	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emissions rates assume 4 relaimers operating simultaneously,

each at 400 tph for a total rate of 1,600 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–030

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor F3 to Conveyor G1/G2

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–030 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	400	4,000,000	6.5	90.0	0.02	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emissions rates assume 4 relaimers operating simultaneously, each at 400 tph for a total rate of 1,600 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–031

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor F2 to Conveyor G1/G2

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–031 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	400	4,000,000	6.5	90.0	0.02	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Short–term (24–hr average) dispersion modeling emission rates assume 4 relaimers operating simultaneously, each at 400 tph for a total rate of 1,600 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–032

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor G1 to Hammermill Crusher 1

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant

Emission Point ID: FH–032

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	800	4,000,000	6.5	90.0	0.03	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–033

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor G2 to Hammermill Crusher 2

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant

Emission Point ID: FH–033 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	800	4,000,000	6.5	90.0	0.03	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–034

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Hammermill Crusher 1 to Conveyor H1

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–034 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	800	4,000,000	6.5	90.0	0.03	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–035

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Hammermill Crusher 2 to Conveyor H2

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant

Emission Point ID: FH–035

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	800	4,000,000	6.5	90.0	0.03	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric – F.J. Gannon Station

FH–036
FH–041

EMISSION SOURCE TYPE

MATERIAL TRANSFER – CONTROLLED EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fuel Handling – Conveyors H1/H2 to Conveyors J1/J2, Conveyors J1/J2 to Bunkers	
Emission Control Method(s)/ID No.(s):	Rotoclones 1 through 6	
Emission Point ID:	FH –036 through FH–041	Transfer Point ID

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = Flow Rate (scfm) x (grain/scf) x (1 lb/7,000 grain) x (60 min/hr)

Emission (tpy) = Flow Rate (scfm) x (grain/scf) x (1 lb/7,000 grain) x (60 min/hr) x Operating Hours (hrs/yr) x (1 ton/2,000 lb)

Source: ECT, 1997.

INPUT DATA AND EMISSIONS CALCULATIONS

Operating Hours: 24 Hrs/Day 7 Days/Wk 8,760 Hrs/Yr

Transfer Points Controlled By Common Control Device	Transfer Point ID No.	Exhaust Flow Rate (scfm)	Exit Grain Loading (gr/scf)	Actual PM_{10} Emission Rates (lb/hr)	(tpy)
Unit 1 Fuel Bunker Loading		9,600	0.0023	0.19	0.99
Unit 2 Fuel Bunker Loading		9,600	0.0023	0.19	0.99
Unit 3 Fuel Bunker Loading		9,600	0.0023	0.19	0.99
Unit 4 Fuel Bunker Loading		9,600	0.0023	0.19	0.99
Unit 5 Fuel Bunker Loading		5,400	0.0041	0.19	0.99
Unit 6 Fuel Bunker Loading		9,600	0.0023	0.19	0.99

SOURCES OF INPUT DATA

Parameter	Data Source
Operating Hours	TEC, 1997.
Exhaust Flow Rate	TEC, 1997. Vendor data.
Exit Grain Loading	TEC, 1997. Based on FDEP Permit No. AO29–250140.

NOTES AND OBSERVATIONS

All Rotoclones are conservatively assumed to be operating whenever any bunkering occurs.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–042

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor D1 to Conveyor G1/G2 (By–Pass Storage)

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–042 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	4,000,000	6.5	90.0	0.10	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

If the fuel stackers and fuel stacker bypasses are operated simultaneously, the total amount of fuel handled will not exceed 4,600 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–043

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | **Figure:**

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor D2 to Conveyor G1/G2 (By–Pass Storage)

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–043 | **Transfer Point ID(s):**

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	4,000,000	6.5	90.0	0.10	0.09

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

If the fuel stackers and fuel stacker bypasses are operated simultaneously, the total amount of fuel handled will not exceed 4,600 tph.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–044

EMISSION SOURCE TYPE

VEHICULAR TRAFFIC ON UNPAVED ROADS – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Storage Pile Maintenance

Emission Control Method(s)/ID No.(s): Dust Suppressant Sprays

Emission Point ID: FH–044

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.36 x 5.9 x (s/12) x (S/30) x $(W/3)^{0.7}$ x $(w/4)^{0.5}$ x ((365–p)/365) x vehicle miles per hour (VMT/hr) x (100–control [pct]/100)

Emission (ton/yr) = 0.36 x 5.9 x (s/12) x (S/30) x $(W/3)^{0.7}$ x $(w/4)^{0.5}$ x ((365–p)/365) x vehicle miles per year (VMT/yr) x (1 ton/ 2,000 lb) x (100–control[pct]/100)

Source: Section 13.2.2 – Unpaved Roads, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Operating Hours: 16 Hrs/Day 7 Days/Wk 5,824 Hrs/Yr

s Silt Content (pct)	S Vehicle Speed (mph)	W Vehicle Weight (ton)	w No. of Wheels	p Rainfall Days	Vehicle Miles Travelled (VMT/hr)	Vehicle Miles Travelled (VMT/yr)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.4	2.5	48	6	107	10.0	58,240	90.0	0.75	2.17

SOURCES OF INPUT DATA

Parameter	Data Source
Operating Hours	ECT, 1997. Estimated.
Silt Content, s	Table 13.2.2–1, Section 13.2.2, AP–42, January 1995.
Vehicle Speed, S	TEC, 1997. Average value.
Vehicle Weight, W	TEC, 1997. Average value.
No. of Wheels	TEC, 1997. Average value.
Rainfall Days	Climate of the States, Third Edition, 1985. Data for Tampa, FL.
Vehicle Miles Traveled	ECT, 1997. Estimated.
Control Efficiency	Table 3.2.15–2, Workbook on Estimation of Emissions and Dispersion Modeling for Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Estimate of vehicle miles traveled based on the use of four bulldozers on the storage piles.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

AH–001

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Auxiliary Handling – Truck Unloading

Emission Control Method(s)/ID No.(s): Dust Supressant

Emission Point ID: AH–001

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	400	362,025	6.5	85.0	0.03	0.01

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	TEC, 1997. Average fuel moisture content.
Control Efficiency	TEC, 1997.

NOTES AND OBSERVATIONS

Annual quantity transferred based on Units 1 through 4 firing an 80/20 coal/TDF blend at maximum capacity for 8,760 hrs/yr.

5,989 MMBtu/hr x 0.2 / 14,492 Btu/lb TDF x 8,760 hrs/yr x 1 ton/2,000 lb = 362,025 tpy

Alternate fuel includes TDF and WDF. The actual annual quantity of TDF and WDF transferred may vary, but the actual total quantity of alternate fuel transferred will not exceed 362,025 tpy.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/08/97
Evaluated by:	A. Trbovich	Date:	01/08/97
Data Entered by:	A. Trbovich	Date:	01/08/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

AH–002

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Auxiliary Handling – Storage Pile to Hopper

Emission Control Method(s)/ID No.(s): Enclosure and Dust Suppressant

Emission Point ID: AH–002

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed	Actual Quantity Transferred		Material Moisture Content	Control Efficiency	Actual PM_{10} Emission Rates	
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	400	362,025	6.5	90.0	0.02	0.01

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	TEC, 1997. Average fuel moisture content.
Control Efficiency	Table 3–16, Fugitive Emission from Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

Annual quantity transferred based on Units 1 through 4 firing an 80/20 coal/TDF blend at maximum capacity for 8,760 hrs/yr.

5,989 MMBtu/hr x 0.2 / 14,492 Btu/lb TDF x 8,760 hrs/yr x 1 ton/2,000 lb = 362,025 tpy

Alternate fuel includes TDF and WDF. The actual annual quantity of TDF and WDF transferred may vary, but the actual total quantity of alternate fuel transferred will not exceed 362,025 tpy.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/08/97
Evaluated by:	A. Trbovich	Date:	01/08/97
Data Entered by:	A. Trbovich	Date:	01/08/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

AH–003

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Auxiliary Handling – Hopper to Conveyor T

Emission Control Method(s)/ID No.(s): Enclosure and Dust Suppressant

Emission Point ID: AH–003

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed	Actual Quantity Transferred		Material Moisture Content	Control Efficiency	Actual PM_{10} Emission Rates	
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	400	362,025	6.5	90.0	0.02	0.01

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	TEC, 1997. Average fuel moisture content.
Control Efficiency	Table 3–16, Fugitive Emission from Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

Annual quantity transferred based on Units 1 through 4 firing an 80/20 coal/TDF blend at maximum capacity for 8,760 hrs/yr.

5,989 MMBtu/hr x 0.2 / 14,492 Btu/lb TDF x 8,760 hrs/yr x 1 ton/2,000 lb = 362,025 tpy

Alternate fuel includes TDF and WDF. The actual annual quantity of TDF and WDF transferred may vary, but the actual total quantity of alternate fuel transferred will not exceed 362,025 tpy.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/08/97
Evaluated by:	A. Trbovich	Date:	01/08/97
Data Entered by:	A. Trbovich	Date:	01/08/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

AH–004

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Auxiliary Handling – Conveyor T to Conveyor U

Emission Control Method(s)/ID No.(s): Enclosure and Dust Suppressant

Emission Point ID: AH–004

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	400	362,025	6.5	90.0	0.02	0.01

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	TEC, 1997. Average fuel moisture content.
Control Efficiency	Table 3–16, Fugitive Emission from Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

Annual quantity transferred based on Units 1 through 4 firing an 80/20 coal/TDF blend at maximum capacity for 8,760 hrs/yr.

5,989 MMBtu/hr x 0.2 / 14,492 Btu/lb TDF x 8,760 hrs/yr x 1 ton/2,000 lb = 362,025 tpy

Alternate fuel includes TDF and WDF. The actual annual quantity of TDF and WDF transferred may vary, but the actual total quantity of alternate fuel transferred will not exceed 362,025 tpy.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/08/97
Evaluated by:	A. Trbovich	Date:	01/08/97
Data Entered by:	A. Trbovich	Date:	01/08/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

AH–005

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Auxiliary Handling – Conveyor U to Conveyors H1 and H2

Emission Control Method(s)/ID No.(s): Enclosure and Dust Suppressant

Emission Point ID: AH–005

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	400	362,025	6.5	90.0	0.02	0.01

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	TEC, 1997. Average fuel moisture content.
Control Efficiency	Table 3–16, Fugitive Emission from Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

Annual quantity transferred based on Units 1 through 4 firing an 80/20 coal/TDF blend at maximum capacity for 8,760 hrs/yr.

5,989 MMBtu/hr x 0.2 / 14,492 Btu/lb TDF x 8,760 hrs/yr x 1 ton/2,000 lb = 362,025 tpy

Alternate fuel includes TDF and WDF. The actual annual quantity of TDF and WDF transferred may vary, but the actual total quantity of alternate fuel transferred will not exceed 362,025 tpy.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/08/97
Evaluated by:	A. Trbovich	Date:	01/08/97
Data Entered by:	A. Trbovich	Date:	01/08/97
Reviewed by:		Date:	

APPENDIX B.2

ACTUAL PM_{10} EMISSION CALCULATION SPREADSHEETS

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–002

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Barge to West Clamshell (Spillage)

Emission Control Method(s)/ID No.(s): Barge Enclosure

Emission Point ID: FH–002

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed	Actual Quantity Transferred		Material Moisture Content	Control Efficiency	Actual PM_{10} Emission Rates	
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	1,150	882,681	6.5	70.0	0.15	0.06

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel delivery was assumed to be equally divided among the barge clamshell, barge continuous, and rail unloading systems, or 882,681 tons per system.

Actual short–term emissions based on clamshell and continuous unloading systems operating simultaneously at 1,150 tph, each.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–003

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Barge to Continuous Unloader (Spillage)

Emission Control Method(s)/ID No.(s): Barge Enclosure

Emission Point ID: FH–003

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	1,150	882,681	6.5	70.0	0.15	0.06

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3–10, Fugitive Emissions From Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel delivery was assumed to be equally divided among the barge clamshell, barge continuous, and rail unloading systems, or 882,681 tons per system.

Actual short–term emissions based on clamshell and continuous unloading systems operating simultaneously at 1,150 tph, each.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–005

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – West Clamshell to West Hopper

Emission Control Method(s)/ID No.(s): Side Enclosure

Emission Point ID: FH–005

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	1,150	882,681	6.5	70.0	0.15	0.06

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3–10, Fugitive Emissions From Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel delivery was assumed to be equally divided among the barge clamshell, barge continuous, and rail unloading systems, or 882,681 tons per system.

Actual short–term emissions based on clamshell and continuous unloading systems operating simultaneously at 1,150 tph, each.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–006

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Continuous Unloader to Conveyor A

Emission Control Method(s)/ID No.(s): Enclosure

Emission Point ID: FH–006 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	1,150	882,681	6.5	85.0	0.07	0.03

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3–16, Fugitive Emissions From Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel delivery was assumed to be equally divided among the barge clamshell, barge continuous, and rail unloading systems, or 882,681 tons per system.

Actual short–term emissions based on clamshell and continuous unloading systems operating simultaneously at 1,150 tph, each.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–007

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor A to Continuous Feeder

Emission Control Method(s)/ID No.(s): Enclosure

Emission Point ID: FH–007

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	1,150	882,681	6.5	85.0	0.07	0.03

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3–16, Fugitive Emissions From Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel delivery was assumed to be equally divided among the barge clamshell, barge continuous, and rail unloading systems, or 882,681 tons per system.

Actual short–term emissions based on clamshell and continuous unloading systems operating simultaneously at 1,150 tph, each.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–009

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – West Hopper to Conveyor B

Emission Control Method(s)/ID No.(s): Enclosure

Emission Point ID: FH–009 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed	Actual Quantity Transferred		Material Moisture Content	Control Efficiency	Actual PM_{10} Emission Rates	
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	1,150	882,681	6.5	85.0	0.07	0.03

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3–16, Fugitive Emissions from Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel delivery was assumed to be equally divided among the barge clamshell, barge continuous, and rail unloading systems, or 882,681 tons per system.

Actual short–term emissions based on clamshell and continuous unloading systems operating simultaneously at 1,150 tph, each

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–011

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor B to Conveyor C

Emission Control Method(s)/ID No.(s): Enclosure

Emission Point ID: FH–011

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed	Actual Quantity Transferred		Material Moisture Content	Control Efficiency	Actual PM_{10} Emission Rates	
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	2,300	1,765,362	6.5	85.0	0.15	0.06

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3–16, Fugitive Emissions From Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel delivery was assumed to be equally divided among the barge clamshell, barge continuous, and rail unloading systems, or 882,681 tons per system.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–013

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Rail Car to Hopper

Emission Control Method(s)/ID No.(s): Partial Enclosure

Emission Point ID: FH–013

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	882,681	6.5	70.0	0.29	0.06

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3–16, Fugitive Emissions From Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel delivery was assumed to be equally divided among the barge clamshell, barge continuous, and rail unloading systems, or 882,681 tons per system.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–014

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Hopper to Conveyor L

Emission Control Method(s)/ID No.(s): Enclosure

Emission Point ID: FH–014 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	882,681	6.5	85.0	0.15	0.03

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3–16, Fugitive Emissions From Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel delivery was assumed to be equally divided among the barge clamshell, barge continuous, and rail unloading systems, or 882,681 tons per system.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–015

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor L to Conveyor D1/D2

Emission Control Method(s)/ID No.(s): Enclosure

Emission Point ID: FH–015 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	882,681	6.5	85.0	0.15	0.03

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3–16, Fugitive Emissions From Coal–Fired Power Plants, EPRI, June 1984.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel delivery was assumed to be equally divided among the barge clamshell, barge continuous, and rail unloading systems, or 882,681 tons per system.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–016

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor D1 to Conveyor M1

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–016 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	1,324,022	6.5	90.0	0.10	0.03

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling for Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel delivery was assumed to be equally divided between conveyors D1 and D2, or 1,324,022 tons per conveyor.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–017

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor D2 to Conveyor M2

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–017 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	1,324,022	6.5	90.0	0.10	0.03

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel delivery was assumed to be equally divided between conveyors D1 and D2, or 1,324,022 tons per conveyor.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–018

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor M1 to Conveyor E1

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–018

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed	Actual Quantity Transferred		Material Moisture Content	Control Efficiency	Actual PM_{10} Emission Rates	
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	2,300	1,324,022	6.5	90.0	0.10	0.03

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel delivery was assumed to be equally divided between conveyors M1 and M2, or 1,324,022 tons per conveyor.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–019

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor M2 to Conveyor E2

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–019

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	1,324,022	6.5	90.0	0.10	0.03

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel delivery was assumed to be equally divided between conveyors M1 and M2, or 1,324,022 tons per conveyor.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–020

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor E1 to Storage Pile

Emission Control Method(s)/ID No.(s): Dust Suppressant

Emission Point ID: FH–020 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	1,324,022	6.5	90.0	0.10	0.03

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel delivery was assumed to be equally divided between conveyors E1 and E2, or 1,324,022 tons per conveyor.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–021

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor E2 to Storage Pile

Emission Control Method(s)/ID No.(s): Dust Suppressant

Emission Point ID: FH–021 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	2,300	1,324,022	6.5	90.0	0.10	0.03

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel delivery was assumed to be equally divided between conveyors E1 and E2, or 1,324,022 tons per conveyor.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–022

EMISSION SOURCE TYPE

STORAGE PILE WINDBLOWN FUGITIVE DUST EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Storage – North Storage Pile

Emission Control Method(s)/ID No.(s): Application of Chemical Dust Suppressant

Emission Point ID: FH–022

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Estimates of fugitive PM_{10} were made using procedures contained in AP–42, Section 13.2.5, Industrial Wind Erosion.

Source: Section 13.2.5 – Industrial Wind Erosion, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Threshold Friction Velocity: 1.12 m/s

Control Efficiency: 90 pct

Pile Length (m): 215 Pile Width (m): 70 Pile Height (m): 21 Surface Area (m^2) 16,758

Meteorological Period	Friction Velocity (m/s)	Emission Potential (g/m^2)	Affected Pile Surface Area (pct)	Affected Area (m^2)	Actual PM_{10} Emission Rates (lb/hr)	(tpy)
14	1.30	6.38	4	670.3	0.12	0.0005
30	1.13	0.26	4	670.3	<0.01	<0.0001
37	1.33	7.81	4	670.3	0.14	0.0003
65	1.48	16.52	14	2,346.1	1.07	0.0021
65	1.80	43.82	4	670.3	0.81	0.0016
77	1.30	6.38	4	670.3	0.12	0.0002
90	1.33	7.81	4	670.3	0.14	0.0003
			Maximum Per Period		1.88	N/A
			Total		N/A	0.0050

SOURCES OF INPUT DATA

Parameter	Data Source
Threshold Friction Velocity (m/s)	Uncrusted coal pile, Table 13.2.5–2., AP–42, January 1995.
Control Efficiency (pct)	Table 3.2.17–2, Workbook on Estimation and Dispersion Modeling for Fugitive Particulate Sources, UARG, September 1991.
Fuel Pile Dimensions (m)	Estimated: ECT, 1997.
Pile Surface Area (m^2)	Calculated: ECT, 1997.
Meteorological Periods	1986 NWS data, processed per AP–42, ECT, 1997.
Friction Velocity (m/s)	Equation, Section 13.2.5, AP–42, January 1995.
Potential Emission (g/m^2)	Equation, Section 13.2.5, AP–42, January 1995.
Affected Pile Surface Area (pct)	Table 13.2.5–3., Section 13.2.5, AP–42, January 1995.
Affected Area	Calculated: ECT, 1997.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–023a

EMISSION SOURCE TYPE

STORAGE PILE WINDBLOWN FUGITIVE DUST EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Storage -- East Portion of South Storage Pile

Emission Control Method(s)/ID No.(s): Application of Chemical Dust Suppressant

Emission Point ID: FH–023a

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Estimates of fugitive PM_{10} were made using procedures contained in AP–42, Section 13.2.5, Industrial Wind Erosion.

Source: Section 13.2.5 -- Industrial Wind Erosion, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Threshold Friction Velocity: 1.12 m/s

Control Efficiency: 90 pct

Pile Length (m): 170 Pile Width (m): 91 Pile Height (m): 21 Surface Area (m^2) 16,754

Meteorological Period	Friction Velocity (m/s)	Emission Potential (g/m^2)	Affected Pile Surface Area (pct)	Affected Area (m^2)	Actual PM_{10} Emission Rates (lb/hr)	(tpy)
14	1.30	6.38	4	670.2	0.12	0.0005
30	1.13	0.26	4	670.2	<0.01	<0.0001
37	1.33	7.81	4	670.2	0.14	0.0003
65	1.48	16.52	14	2,345.5	1.07	0.0021
65	1.80	43.82	4	670.2	0.81	0.0016
77	1.30	6.38	4	670.2	0.12	0.0002
90	1.33	7.81	4	670.2	0.14	0.0003
			Maximum Per Period		1.88	N/A
			Total		N/A	0.0050

SOURCES OF INPUT DATA

Parameter	Data Source
Threshold Friction Velocity (m/s)	Uncrusted coal pile, Table 13.2.5–2., AP–42, January 1995.
Control Efficiency (pct)	Table 3.2.17–2, Workbook on Estimation and Dispersion Modeling for Fugitive Particulate Sources, UARG, September 1991.
Fuel Pile Dimensions (m)	Estimated: ECT, 1997.
Pile Surface Area (m^2)	Calculated: ECT, 1997.
Meteorological Periods	1986 NWS data, processed per AP–42, ECT, 1997.
Friction Velocity (m/s)	Equation, Section 13.2.5, AP–42, January 1995.
Potential Emission (g/m^2)	Equation, Section 13.2.5, AP–42, January 1995.
Affected Pile Surface Area (pct)	Table 13.2.5–3., Section 13.2.5, AP–42, January 1995.
Affected Area	Calculated: ECT, 1997.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–023b

EMISSION SOURCE TYPE

STORAGE PILE WINDBLOWN FUGITIVE DUST EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Storage – West Portion of South Storage Pile

Emission Control Method(s)/ID No.(s): Application of Chemical Dust Suppressant

Emission Point ID: FH–023b

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Estimates of fugitive PM_{10} were made using procedures contained in AP–42, Section 13.2.5, Industrial Wind Erosion.

Source: Section 13.2.5 – Industrial Wind Erosion, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Threshold Friction Velocity: 1.12 m/s

Control Efficiency: 90 pct

Pile Length (m): 140 Pile Width (m): 125 Pile Height (m): 21 Surface Area (m^2) 18,855

Meteorological Period	Friction Velocity (m/s)	Emission Potential (g/m^2)	Affected Pile Surface Area (pct)	Affected Area (m^2)	Actual PM_{10} Emission Rates (lb/hr)	(tpy)
14	1.30	6.38	4	754.2	0.13	0.0003
30	1.13	0.26	4	754.2	0.01	<0.0001
37	1.33	7.81	4	754.2	0.16	0.0003
65	1.48	16.52	14	2,639.6	1.20	0.0024
65	1.80	43.82	4	754.2	0.91	0.0018
77	1.30	6.38	4	754.2	0.13	0.0003
90	1.33	7.81	4	754.2	0.16	0.0003
			Maximum Per Period		2.11	N/A
			Total		N/A	0.0054

SOURCES OF INPUT DATA

Parameter	Data Source
Threshold Friction Velocity (m/s)	Uncrusted coal pile, Table 13.2.5–2., AP–42, January 1995.
Control Efficiency (pct)	Table 3.2.17–2, Workbook on Estimation and Dispersion Modeling for Fugitive Particulate Sources, UARG, September 1991.
Fuel Pile Dimensions (m)	Estimated: ECT, 1997.
Pile Surface Area (m^2)	Calculated: ECT, 1997.
Meteorological Periods	1986 NWS data, processed per AP–42, ECT, 1997.
Friction Velocity (m/s)	Equation, Section 13.2.5, AP–42, January 1995.
Potential Emission (g/m^2)	Equation, Section 13.2.5, AP–42, January 1995.
Affected Pile Surface Area (pct)	Table 13.2.5–3., Section 13.2.5, AP–42, January 1995.
Affected Area	Calculated: ECT, 1997.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–024

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Underground Reclaim System to Conveyor F1

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant

Emission Point ID: FH–024 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed	Actual Quantity Transferred		Material Moisture Content	Control Efficiency	Actual PM_{10} Emission Rates	
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	552	882,681	6.5	90.0	0.02	0.02

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel reclaiming was assumed to be equally divided among the reclaimers F1, F2, and F4, or 882,681 tons per reclaimer.

Actual short–term emissions based on reclaimers F1, F2, and F4 operating simultaneously at 533 tph, each.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–025

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Underground Reclaim System to Conveyor F4

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant

Emission Point ID: FH–025

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	553	882,681	6.5	90.0	0.02	0.02

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel reclaiming was assumed to be equally divided among the reclaimers F1, F2, and F4, or 882,681 tons per reclaimer.

Actual short–term emissions based on reclaimers F1, F2, and F4 operating simultaneously at 533 tph, each.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–027

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Underground Reclaim System to Conveyor F2

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant

Emission Point ID: FH–027 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	553	882,681	6.5	90.0	0.02	0.02

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel reclaiming was assumed to be equally divided among the reclaimers F1, F2, and F4, or 882,681 tons per reclaimer.

Actual short–term emissions based on reclaimers F1, F2, and F4 operating simultaneously at 533 tph, each.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–028

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor F1 to Conveyor G1/G2

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–028

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed	Actual Quantity Transferred		Material Moisture Content	Control Efficiency	Actual PM_{10} Emission Rates	
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	553	882,681	6.5	90.0	0.02	0.02

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel reclaiming was assumed to be equally divided among the reclaimers F1, F2, and F4, or 882,681 tons per reclaimer.

Actual short–term emissions based on reclaimers F1, F2, and F4 operating simultaneously at 533 tph, each.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–029

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor F4 to Conveyor G1/G2

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–029

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	553	882,681	6.5	90.0	0.02	0.02

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel reclaiming was assumed to be equally divided among the reclaimers F1, F2, and F4, or 882,681 tons per reclaimer.

Actual short–term emissions based on reclaimers F1, F2, and F4 operating simultaneously at 533 tph, each.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–031

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor F2 to Conveyor G1/G2

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–031 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed	Actual Quantity Transferred		Material Moisture Content	Control Efficiency	Actual PM_{10} Emission Rates	
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	553	882,681	6.5	90.0	0.02	0.02

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel used is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel reclaiming was assumed to be equally divided among relcaimers F1, F2, and F4, or 882,681 tons per reclaimer.

Actual short–term emissions based on reclaimers F1, F2, and F4 operating simultaneously at 533 tph, each.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–032

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling -- Conveyor G1 to Hammermill Crusher 1

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant

Emission Point ID: FH–032

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	800	1,324,022	6.5	90.0	0.03	0.03

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel reclaiming was assumed to be equally divided between conveyors G1 and G2, or 1,324,022 tons per conveyor.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–033

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Conveyor G2 to Hammermill Crusher 2

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant

Emission Point ID: FH–033 | Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed	Actual Quantity Transferred		Material Moisture Content	Control Efficiency	Actual PM_{10} Emission Rates	
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	800	1,324,022	6.5	90.0	0.03	0.03

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel reclaiming was assumed to be equally divided between conveyors G1 and G2, or 1,324,022 tons per conveyor.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–034

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Hammermill Crusher 1 to Conveyor H1

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant Sprays

Emission Point ID: FH–034

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	800	1,324,022	6.5	90.0	0.03	0.03

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel use is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel reclaiming was assumed to be equally divided between conveyors H1 and H2, or 1,324,022 tons per conveyor.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–035

EMISSION SOURCE TYPE

MATERIAL TRANSFER – FUGITIVE EMISSION SOURCES

Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Hammermill Crusher 2 to Conveyor H2

Emission Control Method(s)/ID No.(s): Enclosure With Dust Suppressant

Emission Point ID: FH–035

Transfer Point ID(s):

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100)

Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)$^{1.3}$ / moisture content (pct)/2)$^{1.4}$] x (100–control[pct]/100) x (1/2,000)

Source: Section 13.2.4 – Aggregate Handling and Storage Piles, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Mean Wind Speed (mph)	Actual Quantity Transferred (ton/hr)	Actual Quantity Transferred (ton/yr)	Material Moisture Content (pct)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.6	800	1,324,022	6.5	90.0	0.03	0.03

SOURCES OF INPUT DATA

Parameter	Data Source
Mean Wind Speed	Tampa, FL, Climate of the States, Third Edition, 1985.
Actual Quantity Transferred	TEC, 1997.
Material Moisture Content	Average fuel moisture content; TEC, 1994.
Control Efficiency	Table 3.2.17–2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Actual PM_{10} emissions based on 2,648,044 tpy of fuel used. Actual fuel used is the average of the 1995 and 1996 actual fuel used, 2,528,334 tons and 2,767,753 tons, respectively.

Actual fuel reclaiming was assumed to be equally divided between conveyors H1 and H2, or 1,324,022 tons per conveyor.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	05/23/97
Evaluated by:	A. Trbovich	Date:	05/23/97
Data Entered by:	A. Trbovich	Date:	05/23/97
Reviewed by:		Date:	

EMISSION INVENTORY WORKSHEET

Tampa Electric – F.J. Gannon Station

FH–036–
FH–041

EMISSION SOURCE TYPE

MATERIAL TRANSFER – CONTROLLED EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fuel Handling – Conveyors H1/H2 to Conveyors J1/J2, Conveyors J1/J2 to Bunkers	
Emission Control Method(s)/ID No.(s):	Rotoclones 1 through 6	
Emission Point ID:	FH –036 through FH–041	Transfer Point ID

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = Flow Rate (scfm) x (grain/scf) x (1 lb/7,000 grain) x (60 min/hr)

Emission (tpy) = Flow Rate (scfm) x (grain/scf) x (1 lb/7,000 grain) x (60 min/hr) x Operating Hours (hrs/yr) x (1 ton/2,000 lb)

Source: ECT, 1997.

INPUT DATA AND EMISSIONS CALCULATIONS

Operating Hours: 24 Hrs/Day 7 Days/Wk 8,760 Hrs/Yr

Transfer Points Controlled By Common Control Device	Transfer Point ID No.	Exhaust Flow Rate (scfm)	Exit Grain Loading (gr/scf)	Actual PM_{10} Emission Rates (lb/hr)	(tpy)
Unit 1 Fuel Bunker Loading		9,600	0.0023	0.19	0.83
Unit 2 Fuel Bunker Loading		9,600	0.0023	0.19	0.83
Unit 3 Fuel Bunker Loading		9,600	0.0023	0.19	0.83
Unit 4 Fuel Bunker Loading		9,600	0.0023	0.19	0.83
Unit 5 Fuel Bunker Loading		5,400	0.0041	0.19	0.83
Unit 6 Fuel Bunker Loading		9,600	0.0023	0.19	0.83

SOURCES OF INPUT DATA

Parameter	Data Source
Operating Hours	TEC, 1997.
Exhaust Flow Rate	TEC, 1997. Vendor data.
Exit Grain Loading	TEC, 1997. Based on FDEP Permit No. AO29–250140.

NOTES AND OBSERVATIONS

All Rotoclones are conservatively assumed to be operating whenever any bunkering occurs.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	

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EMISSION INVENTORY WORKSHEET

Tampa Electric Company – F.J. Gannon Station

FH–04

EMISSION SOURCE TYPE

VEHICULAR TRAFFIC ON UNPAVED ROADS – FUGITIVE EMISSION SOURCES | Figure:

FACILITY AND SOURCE DESCRIPTION

Emission Source Description: Fuel Handling – Storage Pile Maintenance

Emission Control Method(s)/ID No.(s): Dust Suppressant Sprays

Emission Point ID: FH–044

EMISSION ESTIMATION EQUATIONS

Emission (lb/hr) = $0.36 \times 5.9 \times (s/12) \times (S/30) \times (W/3)^{0.7} \times (w/4)^{0.5} \times ((365-p)/365) \times$ vehicle miles per hour (VMT/hr) $\times (100-$control [pct]$/100)$

Emission (ton/yr) = $0.36 \times 5.9 \times (s/12) \times (S/30) \times (W/3)^{0.7} \times (w/4)^{0.5} \times ((365-p)/365) \times$ vehicle miles per year (VMT/yr) $\times$ (1 ton/ 2,000 lb) $\times (100-$control [pct]$/100)$

Source: Section 13.2.2 – Unpaved Roads, AP–42, Fifth Edition, January 1995.

INPUT DATA AND EMISSIONS CALCULATIONS

Operating Hours: 16 Hrs/Day 7 Days/Wk 5,824 Hrs/Yr

s Silt Content (pct)	S Vehicle Speed (mph)	W Vehicle Weight (ton)	w No. of Wheels	p Rainfall Days	Vehicle Miles Travelled (VMT/hr)	Vehicle Miles Travelled (VMT/yr)	Control Efficiency (pct)	Actual PM_{10} Emission Rates (lb/hr)	Actual PM_{10} Emission Rates (tpy)
8.4	2.5	48	6	107	10.0	58,240	90.0	0.75	2.17

SOURCES OF INPUT DATA

Parameter	Data Source
Operating Hours	ECT, 1997. Estimated.
Silt Content, s	Table 13.2.2–1, Section 13.2.2, AP–42, January 1995.
Vehicle Speed, S	TEC, 1997. Average value.
Vehicle Weight, W	TEC, 1997. Average value.
No. of Wheels	TEC, 1997. Average value.
Rainfall Days	Climate of the States, Third Edition, 1985. Data for Tampa, FL.
Vehicle Miles Traveled	ECT, 1997. Estimated.
Control Efficiency	Table 3.2.15–2, Workbook on Estimation of Emissions and Dispersion Modeling for Fugitive Particulate Sources, UARG, September 1981.

NOTES AND OBSERVATIONS

Estimate of vehicle miles traveled based on the use of four bulldozers on the storage piles.

DATA CONTROL

Data Collected by:	A. Trbovich	Date:	01/20/97
Evaluated by:	A. Trbovich	Date:	01/20/97
Data Entered by:	A. Trbovich	Date:	01/20/97
Reviewed by:		Date:	