### F.J. GANNON STATION

# FUEL YARD MODIFICATION CONSTRUCTION PERMIT APPLICATION







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

Engineer - Environmental Planning

EP\gm\LAR090

Enclosures

c/enc: Mr. Clair Fancy - FDEP

Mr. Richard Kirby - EPCHC



#### 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

 $CRB \verb|gm|ADMIN|AUTH.LTR|$ 

### F.J. GANNON STATION

# FUEL YARD MODIFICATION OF THE PROPERTY OF THE

### RECEIVED

Confidence the

1

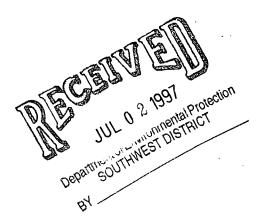
8436.13

OCT 3 0 1997

BUREAU OF AIR REGULATION



Tampa, Florida



**June 1997** 

#### TABLE OF CONTENTS

Section	Tab
Application Information	Application Information
Facility Information	Facility Information
Solid Fuel Bunkers	E.U. 1
Solid Fuel Handling and Storage	E.U. 2
Facility Supplemental Information	
Area Map Showing Facility Location	Doc. II.E.1
Facility Plot Plans	Doc. II.E.2
Process Flow Diagrams	Doc. II.E.3
Precautions to Prevent Emissions of Unconfined Particulate Matter	Doc. II.E.4
Fugitive Emission Identification	Doc. II.E.5
Supplemental Information for Construction Permit Application	Doc. II.E.6
Emission Unit Supplemental Information	
Detailed Description of Control Equipment	Doc. III.I.3
Operation and Maintenance Plan	Doc. III.I.7
Appendices	
Dispersion Modeling Results	Appendix A
Emission Calculation Spreadsheets	Appendix B

#### 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<sub>10</sub>) 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<sub>10</sub>. When the fuel yard was originally permitted, dust emissions were expressed as PM. A portion of the calculated emission decrease occurs because PM<sub>10</sub> 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**

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

I. Part 1 - 1

DEP Form No. 62-210.900(1) - Form

#### 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

FL

State:

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.

Signature

<sup>\*</sup> 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)	ACIF

### 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.
<ul> <li>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.</li> </ul>
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 I. Part 4 - 1
DEP Form No. 62-210.900(1) - Form Effective: 3-21-96

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: 1 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).

DEP Form No. 62-210.900(1) - Form

Current operation permit number(s), if any:

I. Part 4 - 2

modification of an emissions unit.

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 permit revision for one or more newly constructed or modified emissions units (check here [ ] if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions 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 Ox. Our

6 25 97

Signature

Date

<sup>\*</sup> 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

FL

State:

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

Facility UTM Coording     Zone: 17		60.00 North (km)	: 3087.50
2. Facility Latitude/Lon Latitude (DD/MM/SS	_	Longitude (DD/MM/S	S):
3. Governmental Facility Code:	4. Facility Status Code: A	5. Facility Major Group SIC Code:	6. Facility SIC(s):
7. Facility Comment:		1	·

#### **Facility Contact**

racinty 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?	
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 :	· · · · · ·
	•

DEP Form No. 62-210.900(1) - Form

#### **B. FACILITY REGULATIONS**

#### Rule Applicability Analysis

Not applicable		

II. Part 3a - 1

DEP Form No. 62-210.900(1) - Form

#### **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.

II. Part 3b - 1

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

#### C. FACILITY POLLUTANTS

#### **Facility Pollutant Information**

1. Pollutant Emitted	2. Pollutant Classification
SO2	A
NOX	A
РМ	A
PM10	A
СО	A
VOC	A .
HAPS	A
H106	A
H107	А

II. Part 4 - 1

DEP Form No. 62-210.900(1) - Form

#### D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Information	Pollutant3	
1. Pollutant Emitted: SO2		
2. Requested Emissions Cap:		
	(lbs/hour)	(tons/year)
3. Basis for Emissions Cap Code:		
		G. T
4. Facility Pollutant Comment:		
A multi-unit or facility-wide emission capplication.	p is not requested as part of this con	struction permit

II. Part 4b - 1

DEP Form No. 62-210.900(1) - Form

#### 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	0
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	

II. Part 5 - 1

DEP Form No. 62-210.900(1) - Form

#### III. EMISSIONS UNIT INFORMATION

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

Emissions Unit Information Section1_			
Solid Fu	el Bunkers (all solid fuel-fired units)		
Type of	Emissions Unit Addressed in This Section		
1. Regu	ulated 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. Singl	le 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.		

III. Part 1 - 1

DEP Form No. 62-210.900(1) - Form

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

#### **Emissions Unit Description and Status**

1.	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 application.	No. 008 in the F.J. Gannon Station	n Title V Air Operation Permit		

DEP Form No. 62-210.900(1) - Form

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

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

III. Part 3 - 1

DEP Form No. 62-210.900(1) - Form

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

Emissions Unit Information Section  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 :		Degrees Fahrenheit	
Dwell Time :		Seconds	
Incinerator Afterburner Temperature :		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	

III. Part 4 - 1

DEP Form No. 62-210.900(1) - Form

## D. EMISSIONS UNIT REGULATIONS (Regulated Emissions Units Only)

Emissions Unit Information Section  Solid Fuel Bunkers (all solid fuel-fired units)	
Rule Applicability Analysis	
Not applicable	

III. Part 6a - 1

DEP Form No. 62-210.900(1) - Form

Emissions Unit Information Section

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.

III. Part 6b - 1

DEP Form No. 62-210.900(1) - Form

#### E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section1		
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 I	FH-041
2. Emission Point Type Code: 3		
3. Descriptions of Emission Points Comprising this Emis	ssions 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 t	his Emission Point	in Common :
Not applicable		er.
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 (kn	m): 3,087.500
14. Emission Point Comment :		

III. Part 7b - 1

DEP Form No. 62-210.900(1) - Form

Effective: 3-21-96

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. 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	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.					

III. Part 8 - 1

DEP Form No. 62-210.900(1) - Form

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

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

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

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

	nissions Unit Information Section lid Fuel Bunkers (all solid fuel-fired units)					
Po	llutant 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 Emis	sions:		to	tons/year	
6.	Emissions Factor : Reference : Allowable emission	ns				
7.	7. Emissions Method Code: 0					
8.	Calculations of Emissions :					
-						
9.	9. Pollutant Potential/Estimated Emissions Comment:					
	Potential emissions (Field 3) are per Roto-C	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 Emission	ons :					
				ם			
3.	Requested Allowable Emissions and Units:	: 0.19	J	b/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 (Basis for allowable emission code is FDEP Rul of Permit AO29-250139.  Method of compliance per FDEP Rule 62-297.	le 62-296.700(2)(c)	•		2		

## 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						
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.						

III. Part 10 - 1

DEP Form No. 62-210.900(1) - Form

# I. VISIBLE EMISSIONS INFORMATION (Regulated Emissions Units Only)

Emissions Unit Information Section 1 Solid Fuel Bunkers (all solid fuel-fired units)						
<u>Visible Emissions Limitation</u> : Visible Emissions Limitation2						
1. Visible Emissions Subtype:	00					
2. Basis for Allowable Opacity:						
3. Requested Allowable Opacity:						
Normal	Conditions:		%			
Exceptional	Conditions:	100	%			
Maximum Period of Excess Opacit	y 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.						
				•		

DEP Form No. 62-210.900(1) - Form

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

Emissions Unit Information Section 1		
Solid	Fuel Bunkers (all solid fuel-fired units)	
<u>PSD</u>	Increment Consumption Determination	
1. Is	ncrement 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.	

DEP Form No. 62-210.900(1) - Form

2.	In	crement Consur	ning for Nitroge	n 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.				
]	.1	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.				
[	]	unit began initi	-	r February 8,	1988, but before March	or source, and the emission 28, 1988. If so, baseline
[	]	•	•	• ,	will begin) initial opera	tion after March 28, 1988. ement.
[>	( )	case, additiona	l analysis, beyon ssions have occu	d the scope of	f this application, is nee	unit are nonzero. In such ded to determine whether attention date that may consume or
				•		
			·			
3.	Ir	ncrement Consu	ming/Expanding	Code:		
		PM:	U	SO2:	NO2 :	
4	. B	Saseline Emissio	ns :			
		PM:	0.1900	lb/hour	0.9900	tons/year
		SO2 :	0.1500	lb/hour	0.2200	tons/year
		NO2 :		-3,		tons/year
5.	P	SD Comment:		<del></del>		
			rt of haseline DSF	l emission inver	ntory. Baseline emissions	are per Roto-Clone

DEP Form No. 62-210.900(1) - Form

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

III. Part 13 - 1

DEP Form No. 62-210.900(1) - Form

12. Identification of	Additional Applicable Requirements: NA
13. Compliance Assu Plan:	rance Monitoring NA
14. Acid Rain Applic	ation (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)

Emissio	ns Unit Information Section 2
Solid Fue	el Handling and Storage (all sources)
Type of	Emissions Unit Addressed in This Section
1. Regu	lated 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. Singl	e 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.

III. Part 1 - 2

DEP Form No. 62-210.900(1) - Form

<b>Emissions</b>	Unit Information Section	2
------------------	--------------------------	---

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

#### **Emissions Unit Description and Status**

1.	1. Description of Emissions Unit Addressed in This Section :				
	Solid Fuel Handling and Storage (all sources)				
2.	Emissions Unit Identification 1	Number: 009			
	[ ] No Corresponding I	<b>D</b> [ ] Ur	ıknown		
3.	Emissions Unit Status	4. Acid Rain Unit?	5. Emissions Unit Major		
	Code: A	[ ] Yes [X] No	Group SIC Code: 49		
-	·		£		
6.	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.				

DEP Form No. 62-210.900(1) - Form

## 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		

III. Part 3 - 2

DEP Form No. 62-210.900(1) - Form

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

III. Part 3 -

3

DEP Form No. 62-210.900(1) - Form

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

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 :		Degrees Fahrenheit
Dwell Time :		Seconds
Incinerator Afterburner Temperature :		Degrees Fahrenheit
Emissions Unit Operating Capacity		
1. Maximum Heat Input Rate:	mmBtu/hr	<del>-</del> -
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

orm

III. Part 4 - 2

DEP Form No. 62-210.900(1) - Form

**Emissions Unit Information Section** 

## D. EMISSIONS UNIT REGULATIONS (Regulated Emissions Units Only)

Emissions Unit Information Section Solid Fuel Handling and Storage (all sources)	
Rule Applicability Analysis	
Not applicable	

DEP Form No. 62-210.900(1) - Form

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

#### **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.

DEP Form No. 62-210.900(1) - Form

#### E. EMISSION POINT (STACK/VENT) INFORMATION

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 Emis (limit to 100 characters per point) FH-001 through FH-035, FH-042 through FH-044, AFH-	•		
4. ID Numbers or Descriptions of Emission Units with the	nis 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 specific height information.	each emission source. See DOC.II.E.6 for		

III. Part 7a - 1

DEP Form No. 62-210.900(1) - Form

**Emissions Unit Information Section** 

#### F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 2
Solid Fuel Handling and Storage (all sources)
Segment Description and Rate: Segment 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.

III. Part 8 - 1

DEP Form No. 62-210.900(1) - Form

### 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:

III. Part 8 - 3

DEP Form No. 62-210.900(1) - Form

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

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

1. Pollutant Emitted	Primary Control     Device Code	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)

Solid Fuel Handling and Storage (all sources					
Pollutant Potential/Estimated Emissio	ons : Pollu	tant <u>1</u>			
1. Pollutant Emitted: PM	_			_	
2. Total Percent Efficiency of Control:		%			
3. Potential Emissions :	lb/hour			tons/y	rear
4. Synthetically Limited?  [X ] Yes  [ ] No				,	
5. Range of Estimated Fugitive/Other E	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 Emission	ons Comment	::		_	
Emisison unit throughput limited to 4,3	62,025 tpy.	,			

III. Part 9b - 2

DEP Form No. 62-210.900(1) - Form

## I. VISIBLE EMISSIONS INFORMATION (Regulated Emissions Units Only)

**Emissions Unit Information Section** Solid Fuel Handling and Storage (all sources) <u>Visible Emissions Limitation</u>: Visible Emissions Limitation 1. Visible Emissions Subtype: 05 2. Basis for Allowable Opacity: RULE 3. Requested Allowable Opacity: Normal Conditions: % **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.

DEP Form No. 62-210.900(1) - Form

## I. VISIBLE EMISSIONS INFORMATION (Regulated Emissions Units Only)

Solid Fuel Handling and Storage (all sources) Visible Emissions Limitation: Visible Emissions Limitation 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.

DEP Form No. 62-210.900(1) - Form

FDEP Rule 62-210.700, F.A.C.

**Emissions Unit Information Section** 

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

Emissions Unit Information Section2
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.

III. Part 12 - 3

DEP Form No. 62-210.900(1) - Form

2.	In	crement Consu	ming for Nit	rogen Dioxide?		
[	]		has undergo		is undergoing PSD revi reviously, for nitrogen	ew as part of this dioxide. If so, emissions
	]	paragraph (c) of and the emission	of the definit	ion of "major sou ressed in this secti		Chapter 62-213, F.A.C., commence) construction
[	]	unit began init	ial operation	• •	1988, but before Marc	or source, and the emission th 28, 1988. If so, baseline
[	]			- '	will begin) initial operations unit consumes incr	ation after March 28, 1988. ement.
[ X	[ ]	case, additiona	al analysis, b issions have	eyond the scope o	f this application, is nee	unit are nonzero. In such eded to determine whether e date that may consume or
3.	Iı	ncrement Consu	ming/Expan	ding Code :		
		<b>PM</b> :	U	SO2:	NO2:	
4.	В	Baseline Emissio	ns :		<u> </u>	·
		<b>PM</b> :		lb/hour		tons/year
		SO2:		lb/hour		tons/year
		NO2:				tons/year
5.	P	SD Comment:				
	E	mission unit is pa	art of baseline	PSD emission inve	ntory.	

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

#### L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

\_ 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 Application	s Only
10. Alternative Methods of Operations :	NA
11. Alterntive Modes of Operation (Emissions Trading):	NA

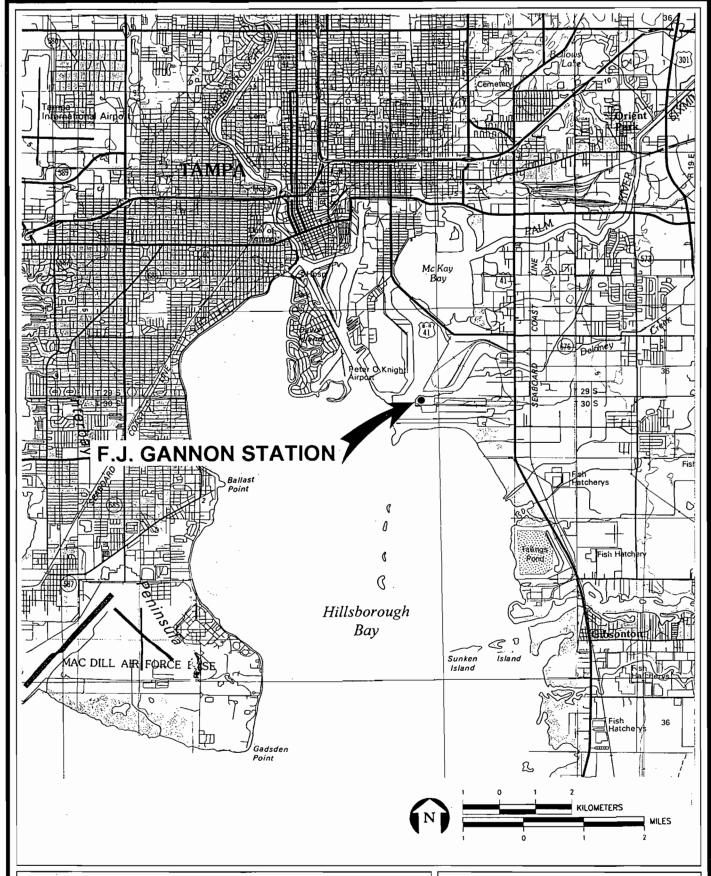
III. Part 13 - 3

DEP Form No. 62-210.900(1) - Form

**Emissions Unit Information Section** 

12. Identification of A	Additional Applicable Requirements:	NA
13. Compliance Assur Plan:	rance Monitoring	NA .
14. Acid Rain Applica	ation (Hard-copy Required):	
NA	Acid Rain Part - Phase II (Form	1 No. 62-210.900(1)(a))
NA	Repowering Extension Plan (Fo	orm No. 62-210.900(1)(a)1.)
NA	New Unit Exemption (Form No	o. 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



## FIGURE II.E.1.1. F.J. GANNON STATION AREA MAP

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



# 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	11.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	11.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 FH-032	II.E.2.2. II.E.2.2.
Conveyor G1 to Hammermill Crusher 1 * Conveyor G2 to Hammermill Crusher 2 *	FH-033	II.E.2.2. II.E.2.2.
Hammermill Crusher 1 to Conveyor H1 *	FH-034	II.E.2.2.
Hammermill Crusher 2 to Conveyor H2 *	FH-035	11.E.2.2.
Conveyors H1/H2 to Conveyors J1/J2, Conveyors J1/J2	111-055	II.L.Z.Z.
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	H.E.2.2

<sup>\*</sup> 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.



FIGURE II.E.2.2.

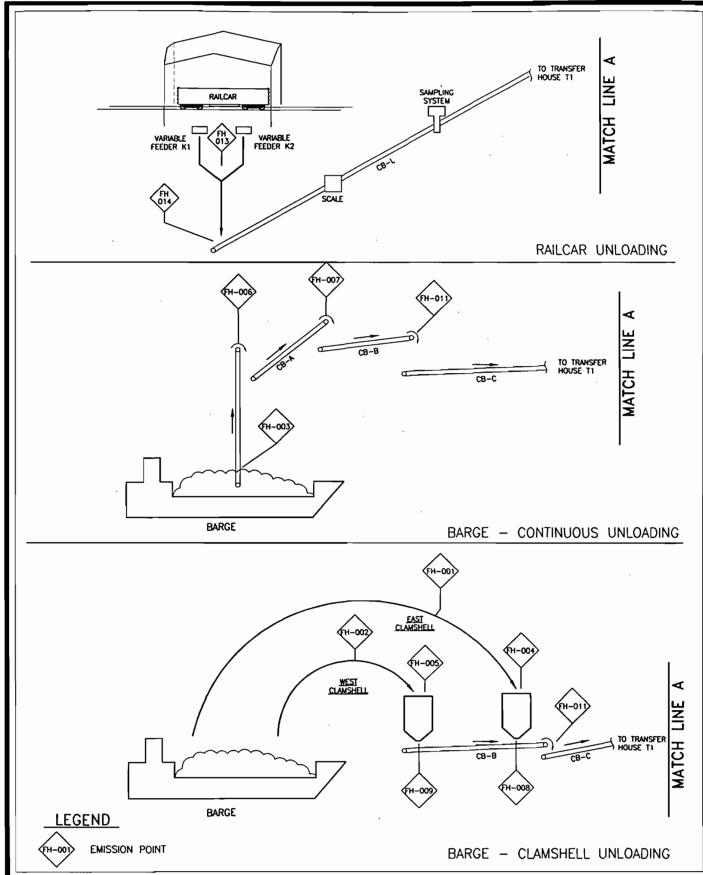
F.J. GANNON STATION

FUEL AND OTHER MATERIAL HANDLING AND STORAGE EMISSION SOURCES

Source: TEC, 1997; ECT, 1997.



# DOCUMENT II.E.3 PROCESS FLOW DIAGRAMS



#### FIGURE II.E.3.1.

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



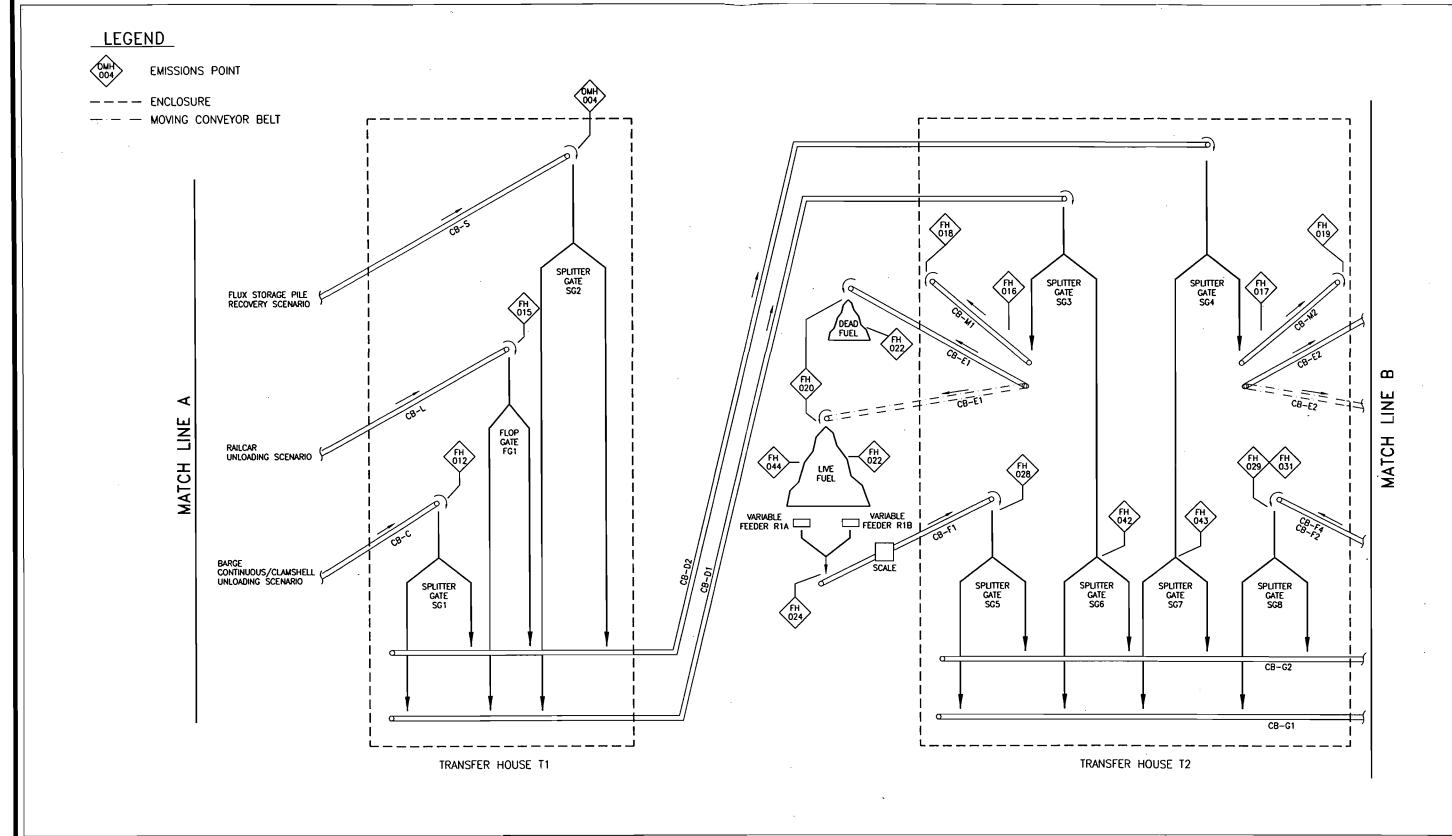


FIGURE II.E.3.2.

F.J. GANNON STATION

FUEL AND FLUX HANDLING AND STORAGE PROCESS FLOW DIAGRAM



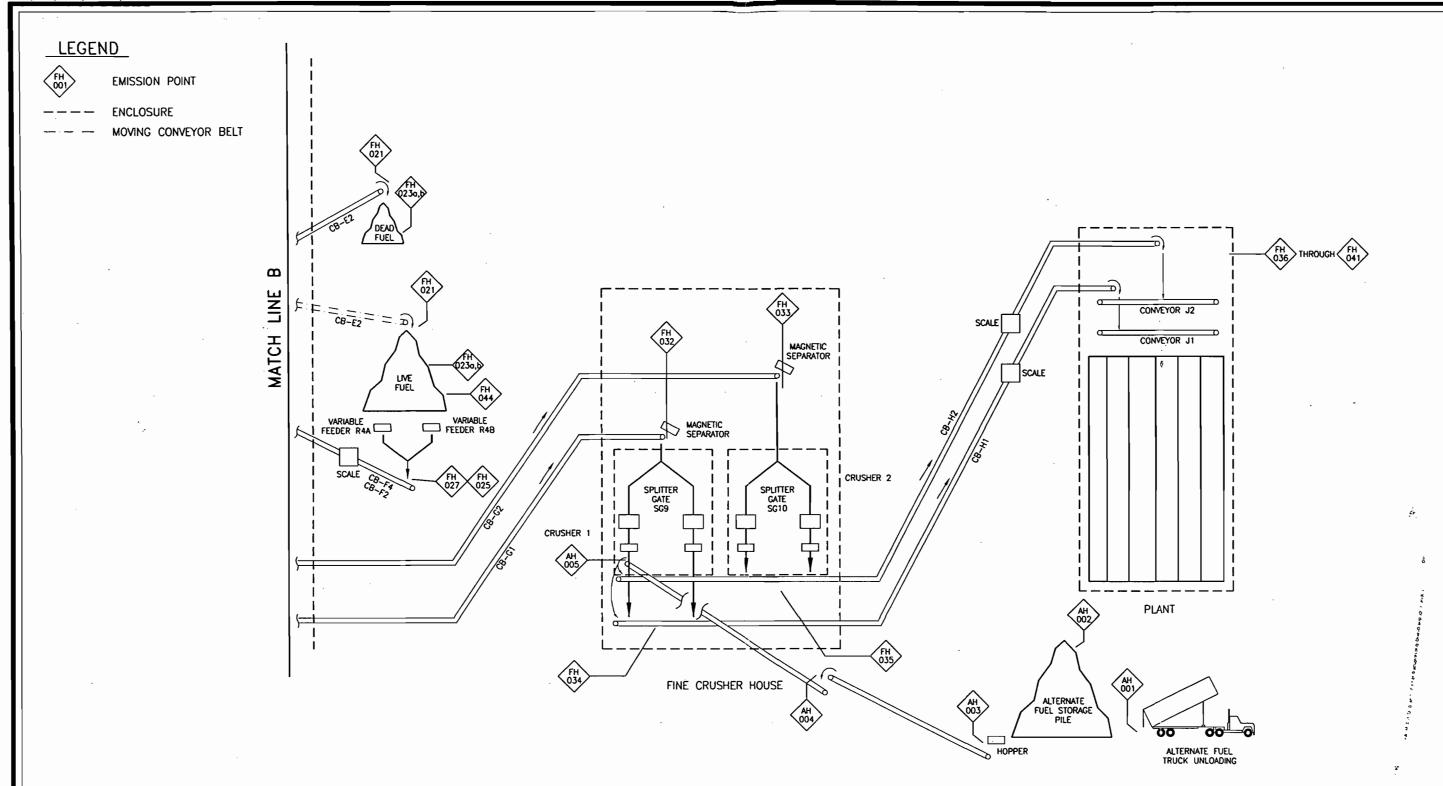


FIGURE II.E.3.3.

F.J. GANNON STATION

FUEL AND FLUX HANDLING AND STORAGE PROCESS FLOW DIAGRAM



### **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
Trook Damp to Tran Storage Trie	<b>01.111 001</b>

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

ource ID
ОМН-002
MH-003
MH-004
MH-005
FA-002
FA-004
FA-005
FA-007

<sup>\*</sup>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.

# 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	Currently			Nonstack Emission					
Emission Point Description	Point ID	Pennitted	Proposed	Change	Point Height					
·		(tph)	(tph)	(tph)	(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.



# **DOCUMENT II.E.6.2**

# PM<sub>10</sub> EMISSION SUMMARY AND DEMONSTRATION OF NO PREVENTION OF SIGNIFICANT DETERIORATION APPLICABILITY

		PN	M10 Emission	
Emission Point Description	Emission Point ID	Actual (tpy)	Future Actual (tpy)	Change (tpy)
Barge to elamshell	FH-002	0.06	0.02	-0.0
Barge to continuous unloader	FH-003	0.06	0.02	-0.0
Clamshell to barge unloading hopper	FH-005	0.06	0.02	-0.0
Continuous unloader to conveyor A	FH-006	0.03	0.02	-0.0
Conveyor A to continuous feeder	FH-007	0.03	0.02	-0.0
Barge unloading hopper to conveyor B	FH-009	0.03	0.02	-0.0
Conveyor B to conveyor C	FH-011	0.06	0.09	0.0
Conveyor C to conveyors D1, D2	FH-012	0.04	0.09	0.0
Rail car to rail unloading hopper	FH-013	0.06	0.00	-0.0
Rail unloading hopper to conveyor L	FH-014	0.03	0.00	-0.0
Conveyor L to conveyors D1, D2	FH-015	0.03	0.00	-0.0
Conveyor D1 to conveyor M1	FH-016	0.03	0.05	0.0
Conveyor D2 to conveyor M2	FH-017	0.03	0.05	0.0
Conveyor M1 to conveyor E1	FH-018	0.03	0.05	0.0
Conveyor M2 to conveyor E2	FH-019	0.03	0.05	0.0
Conveyor E1 to fuel storage pile	FH-020	0.03	0.05	0.0
Conveyor E2 to fuel storage pile	FH-021	0.03	0.05	0.0
Fuel storage pile	FH-022/023	0.03	0.03	
Underground reclaim to conveyor F1	FH-024	0.02	0.03	0.0
Underground reclaim to conveyor F4	FH-025	0.02	0.03	0.0
Underground reclaim to conveyor F3	FH-026	0.00	0.00	0.0
Underground reclaim to conveyor F2	FH-027	0.02	0.03	0.0
Conveyor F1 to conveyors G1, G2	FH-028	0.02	0.03	0.0
Conveyor F4 to conveyors G1, G2	FH-029	0.02	0.03	0.0
Conveyor F3 to conveyors G1, G2	FH-030	0.00	0.00	0.0
Conveyor F2 to conveyors G1, G2	FH-031	0.02	0.03	0.0
Conveyor G1 to crushers	FH-032	0.03	0.05	0.0
Conveyor G2 to crushers	FH-033	0.03	0.05	0.0
Crushers to conveyor H1	FH-034	0.03	0.05	0.0
Crushers to conveyor H2	FH-035	0.03	0.05	0.0
Conveyor H1 to bunkering	FH-036/041	2.97	2.97	0.0
Conveyor H2 to bunkering	FH-036/041	2.97	2.97	0.0
Conveyor D1 to conveyor G1, G2	FH-042	0.00	0.00	0.0
Conveyor D2 to conveyor G1, G2	FH-043	0.00	0.00	0.0
Dozer operations of storage piles	FH-044	2.17	2.17	0.0
Fruck unloading - auxiliary	AH-001	0.00	0.01	0.0
Storage pile to auxiliary hopper	AH-002	0.00	0.01	0.0
Auxiliary hopper to conveyor T	AH-002 AH-003	0.00	0.01	0.0
Conveyor T to conveyor U	AH-003	0.00	0.01	0.0
Conveyor U to conveyors G1, G2	AH-005	0.00	0.01	0.0
PM10 Emission Summary		9.05	9.17	0.1

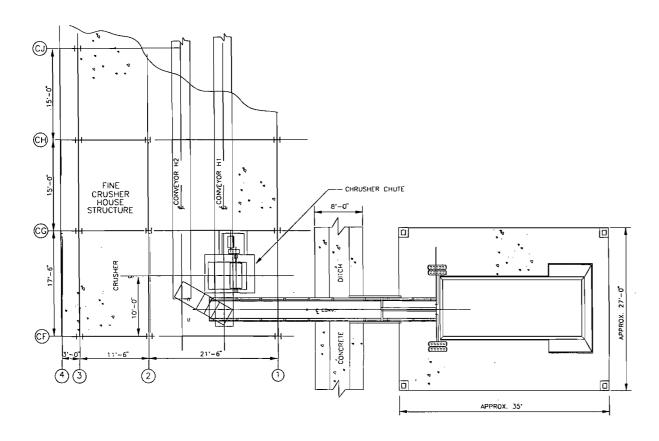
#### Notes:

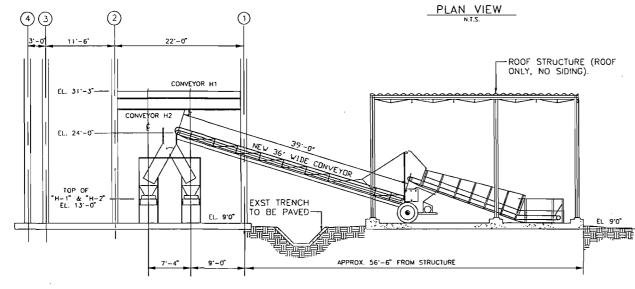
- 1. Actual emissions based on average of 1995 and 1996 actual fuel usage equally divided among fuel transfer points.
- 2. Future actual emissions based on 4,000,000 tpy of fuel conservatively assumed to be off-loaded from barge and then equally divided among fuel transfer points.
- 3. Future actual 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

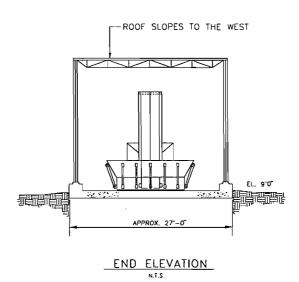






#### NOTES

- 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

ELEVATION LOOKING EAST

# GANNON STATION ALTERNATE FUELS RECLAIMER PRELIMINARY ARRANGEMENT

J:\DRAWINGS\GANNON\

| B | CEMENTED DITCH AND SLOPED ROOF | TNW | 3-3-3-4 | SHORTEN | BOOM | TNW | 2-26 | REV. | DESCRIPTION OF CHANGE | APPR. DAT

DESIGNED BY CHECKED BY APPROVED BY RMG TNW RLB

DATE JOB NO.
12/96 G22-77

FILE NAME GAFR2

DWG. NO.



# **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. <u>Process System Performance Parameters</u>:
  - 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. <u>Inspection and Maintenance Procedures</u>:

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<sub>10</sub> DISPERSION MODELING RESULTS

Short- and long-term dispersion modeling of F.J. Gannon Station PM<sub>10</sub> 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<sub>10</sub> 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 <sub>10</sub> Impacts - F.J. Gannon Station - All Facility PM <sub>10</sub> Emission Sources - Modified Fuel Yard								
		Highest Second-l	Highest			Highest	_	
	24-Hour Average Ambient Concentration				Annual	Average Ambien	t Concentrat	ion
	Modeled		;	24-Hour	Modeled	_		24-Hour
Year	Concentration	Background	Total	Standard	Concentration	Background	Total	Standard
	(ug/m <sup>3</sup> )	$(ug/m^3)$	$(ug/m^3)$	$(ug/m^3)$	(ug/m <sup>3</sup> )	$(ug/m^3)$	$(ug/m^3)$	(ug/m <sup>3</sup> )
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	5(

#### 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<sub>10</sub> 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<sub>10</sub> EMISSION CALCULATION SPREADSHEETS

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MATERIAL TRANSFER - FUGITIVE EMISSION SOURCES					Figure:		
		FACILITY AND SO	URCE DESC	RIPTION			
Emission Source l	Description:	Fuel Handling - Barge	to West Clamsh	ell (Spillage)			
Emission Control	Method(s)/ID No.(s):	Dust Suppressant					
Emission Point ID:	:	FH-002		Transfer Point ID	)(s):		
		EMISSION ESTIN	IATION EQU	ATIONS			
Emission (lb/hr) = 0.0	2011 x material transferre	d (ton/hr) x [(average wind s	peed (mph)/5) <sup>1.3</sup>	moisture content (p	ct)/2) <sup>1.4</sup> ] x (100-cont	rol[pct]/100)	
Emission (tpy) = 0.00	)11 x material transferred	(tpy) x [(average wind speed	d (mph)/5) 1.3 / mo	isture content (pct)/2	) <sup>1.4</sup> ] x (100-control[p	xt]/100) x (1/2,000	
Source: Section 1	13.2.4 - Aggregate I	landling and Storage Pi	les, AP-42, Fift	h Edition, Januar	y 1995.		
				·			
	IN	PUT DATA AND EMI	ISSIONS CAL	CULATIONS			
	// //	**C3***Z7*******************************	Material				
Mean Wind	Act		Moisture	Control	Actual PM <sub>10</sub> Emission Rates		
Speed (mph)	Quantity T	(ton/yr)	Content (pct)	Efficiency (pct)	(lb/hr)	(tpy)	
8.6	1,150	4,000,000	6.5	95.0	0.02	0.04	
5.5	.,						
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	ODCEDVATIO	ONG			
			.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Short-term (24-1	hr average) dispersio	n modeling emissions re	ates assume we	st clamshell and	continuous unload	ers operating	
simultaneously,	each at 1,150 tph fo	r a total unloading rate of	of 2,300 tph.				
				-			
		DATA	CONTROL				
Data Collected	l by:	A. Trbovich			ate: 0	1/20/97	
Evaluated by:		A. Trbovich				1/20/97	
Data Entered b		A. Trbovich				1/20/97	
	·y	A. HOOVICH				1/20/31	
Reviewed by:				i i	Date:		

Tampa Electric Company - F.J. Gannon Station

EMISSION SOURCE TYPE

		<u>EMISSIEIN</u>	SUUNUE 111	<b></b>		
MA	TERIAL TRANSFER	- FUGITIVE EMIS			Figure:	
		FACILITY AND SO	OURCE DESC	RIPTION		
Emission Sourc	e Description:	Fuel Handling - Barge	to Continuous L	Inloader (Spillag	e)	
Emission Contro	ol Method(s)/ID No.(s):	Barge Enclosure and D	ust Suppressant			
Emission Point	ID:	FH003		Transfer Point I	D(s):	
		EMISSION ESTIN	MATION EQU	ATIONS		
Emission (lh/hr) =	0 0011 v material transferre	ed (ton/hr) x [(average wind a	need (mnh)/5)1.3	moisture content (	nct)/2) <sup>1,4</sup> 1 x (100—cor	strol[nct]/100)
		(tpy) x [(average wind spee				
Sauras, Sastia	n 19 9 A — Aggragata b	landling and Storage Pi	loc AD-A2 Fift	h Edition Janua	n. 1995	
Source: Secuo	n 13.2.4 – Aggregate r	tandling and Storage Fi	165, AF-42, FIII	n Edition, Janua	iy 1995.	
	<u> </u>	PUT DATA AND EM	ISSIONS CAL Material	CULATIONS		
Mean Wind	Act	tual	Moisture	Control	Actual	PM <sub>10</sub>
Speed	Quantity T		Content	Efficiency	Emissio	n Rates
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	1,150	4,000,000	6.5	95.0	0.02	0.04
		SOURCES (	OF INPUT DA			
<u>Pa</u>	rameter			ata Source	_ <del></del>	·
Mean Wind Spe	ed	Tampa, FL, Climate of	the States, Third	d Edition, 1985.		
<b>Actual Quantity</b>		TEC, 1997.				
Material Moistur		Average fuel moisture			- Di - L EDDI I	
Control Efficien	<u></u>	Table 3-10, Fugitive E	missions From (	Coal-Fired Pow	er Plants, EPRI, Ju	ine 1964.
		NOTES AND	OBSERVATIO	ONS		
Short-term (24	-hr average) dispersio	n modeling emissions r	ates assume we	st clamshell and	continuous unloa	ders operating
-						<b>-</b>
Simultaneous	iy, each at 1,150 tph 10	r a total unloading rate	ы 2,300 фп.		·.	·
_						
		DATA	CONTROL			
Data Collecte	ed by:	A. Trbovich			Date: (	01/20/97
Evaluated by	/:	A. Trbovich			Date: (	01/20/97
Data Entered		A. Trbovich				01/20/97
		A. HOOVIOII				
Reviewed by	:				Date:	

FH-005

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MAT	ERIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:			
		FACILITY AND SO	URCE DESC	RIPTION				
Emission Source	Description:	Fuel Handling - West C	lamshell to Wes	st Hopper				
Emission Control	Method(s)/ID No.(s):	Side Enclosure and Dus	t Suppressant					
Emission Point ID	):	FH-005		Transfer Point I	D(s):			
		EMISSION ESTIM	IATION EQU	ATIONS				
Emission (lh/hr) = 0	0011 v material transferre	d (torv/hr) x [(average wind s	need (mph)/5)1.3 /	moisture content (	2ct)/2) <sup>1,4</sup> 1 x (100—co	ntrol[net]/100)		
		(tpy) x [(average wind speed						
Source: Section	13.2.4 <u>– Aggregate F</u>	landling and Storage Pil	es, AP-42, Fift	h Edition, Janua	ry 1995.	_		
					-			
	IN	PUT DATA AND EMI	SSIONS CAL	CULATIONS				
			Material	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Mean Wind	Actual		Moisture	Control	Actual PM <sub>10</sub>			
Speed	Quantity T		Content	Efficiency	Emissio			
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)		
8.6	1,150	4,000,000	6.5	95.0	0.02	0.04		
		SOURCES C	FINPUT DA					
Para	Parameter Data Source							
Mean Wind Speed Tampa, FL, Climate of the States, Third Edition, 1985.								
Mean Wind Speed Actual Quantity T		TEC, 1997.	me States, Time	- Luiuon, 1965.				
Material Moisture		Average fuel moisture of	content; TEC, 19	994.				
Control Efficiency		Table 3-10, Fugitive Emissions From Coal-Fired Power Plants, EPRI, June 1984.						
•								
		NOTES AND	OBSERVATIO	ONS				
Short-term (24-	hr average) dispersio	n modeling emissions re	ates assume we	st clamshell and	continuous unloa	ders operating		
			- 4 0 000 A- L					
simuitaneousiy	, each at 1,150 tph to	a total unloading rate o	or 2,300 tpn.					
				-	_			
		DATA (	CONTROL		_			
Data Collected	d by:	A. Trbovich			Date:	01/20/97		
Evaluated by:		A. Trbovich			Date:	01/20/97		
Data Entered I	by:	A. Trbovich			Date:	01/20/97		
Reviewed by:					Date:			

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MAT	ERIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:			
FACILITY AND SOURCE DESCRIPTION								
Emission Source	Emission Source Description: Fuel Handling - Continuous Unloader to Conveyor A							
Emission Contro	l Method(s)/ID No.(s):	Enclosure and Dust Sup	pressant					
Emission Point II	D:	FH-006		Transfer Point I	D(s):			
		EMISSION ESTIN	IATION EQU	<u>ATIONS</u>				
Fmission (lb/hr) = 0	) 0011 x material transferre	ed (ton/hr) x ((average wind s	peed (mph)/5) <sup>1.3</sup> /	moisture content (	pct)/2) <sup>1.4</sup> ] x (100–co	ntrol[pct]/100)		
		(tpy) x [(average wind speed						
Source: Section	1924 — Aggregate b	landling and Storage Pil	les AD-A2 Eift	h Edition Janua	ny 1995			
Source. Section	13.2.4 - Aggregate i	anding and Storage Fi	185, AF 42, FIII	ii Edidoli, Janua	19 1999.			
	IN	PUT DATA AND EMI	SSIUNS CAL Material	CULATIONS				
Mean Wind	Act	ual	Moisture	Control	Actual	PM <sub>10</sub>		
Speed	Quantity T		Content	Efficiency	Emission Rates			
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)		
8.6	1,150	4,000,000	6.5	95.0	0.02	0.04		
		SOURCES C	F INPUT DA					
Par	Parameter Data Source							
Mean Wind Spee	ed	Tampa, FL, Climate of	the States, Third	d Edition, 1985.				
Actual Quantity 1		TEC, 1997.	-					
Material Moisture Control Efficienc		Average fuel moisture of Table 3–16, Fugitive E			or Planta EDDI II	· 1094		
COILLOI ENICIENC		Table 3-10, Tugilive L	missions Fioth	Doal-Filed Fow	ei Flants, EFNI, Ju	ille 1504.		
						·		
		NOTES AND	ORSERVATIO	ONS				
Short torm /24	hr avaraga) dispossia	n modeling emissions ra			continuous unlos	dora operating		
					Continuous unioa	uers operaung		
simultaneously	, each at 1,150 tph fo	r a total unloading rate o	of 2,300 tph.					
-		_						
			O'OVEROV					
D . C			CONTROL			0.1.100.10=		
Data Collecte	а Бу:	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:	•			ŀ	Date:			

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MA	TERIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:		
		FACILITY AND SO	URCE DESC	RIPTION			
Emission Source Description: Fuel Handling - Conveyor A to Continuous Feeder							
Emission Contro	ol Method(s)/ID No.(s):	Enclosure and Dust Sup	pressant				
Emission Point	 ID:	FH-007		Transfer Point II	D(s):		
		EMISSION ESTIN	IATION EQU				
Fmission (lb/br) =	0 0011 v material transferre	d (ton/hr) x [(average wind s	need (mph)/5)1.3 /	moisture content (c	oct)/2) <sup>1.4</sup> 1 x (100—con	trol[pct]/100)	
		(tpy) x [(average wind spee					
Source: Section	n 13 2.4 – Aggregate F	landling and Storage Pi	les. AP-42. Fift	h Edition, Januar	ry 1995.	<u>-</u>	
					,		
	IN	PUT DATA AND EM	ISSIONS CAL	CULATIONS			
			Material				
Mean Wind Speed	Act		Moisture Content	Control Efficiency	Actual Emissior		
(mph)	Quantity T (ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)	
8.6	1,150	4,000,000	6.5	95.0	0.02	0.04	
	.,	, .					
Pa	SOURCES OF INPUT DATA Parameter Data Source						
	. amoto.						
Mean Wind Spe		Tampa, FL, Climate of	the States, Third	Edition, 1985.			
Actual Quantity Material Moistur		TEC, 1997.  Average fuel moisture of	content: TEC 19		_		
Control Efficien		Table 3-16, Fugitive E			er Plants, EPRI, Jui	ne 1984.	
	•						
						·	
					_		
		NOTES AND	<u>OBSERVATIO</u>	DNS			
Short-term (24	-hr average) dispersio	n modeling emissions r	ates assume we	st clamshell and	continuous unload	lers operating	
simultaneousl	ly, each at 1,150 tph fo	r a total unloading rate o	of 2,300 tph.				
•							
		<u> </u>					
			~~**	20000000000000000000000000000000000000			
		·	CONTROL				
Data Collecte		A. Trbovich		<del></del>		1/20/97	
Evaluated by	:	A. Trbovich		· · ·	Date: 0	1/20/97	
Data Entered	by:	A. Trbovich			Date: 0	1/20/97	
Reviewed by	•			i	Date:		

FH-009

Tampa Electric Company - F.J. Gannon Station

EMISSION SOURCE TYPE

MATI	MATERIAL TRANSFER - FUGITIVE EMISSION SOURCES					
		FACILITY AND SO	URCE DESC	RIPTION		
Emission Source	Description:	Fuel Handling – West H	opper to Conve	yor B		
Emission Control	Method(s)/ID No.(s):	Enclosure and Dust Sup	pressant			
Emission Point ID	):	FH-009		Transfer Point I	D(s):	
		EMISSION ESTIM	IATION EQU			
Emission (lb/hr) = 0.	0011 x material transferre	d (ton/hr) x [(average wind s	peed (mph)/5) <sup>1.3</sup> /	moisture content (	pct)/2) <sup>1.4</sup> 1 x (100—co	ntrolipet1/100)
Emission (tpy) = 0.0	011 x material transferred	(tpy) x [(average wind speed	I (mph)/5) <sup>1.3</sup> / mo	isture content (pct)/	2) <sup>1.4</sup> ] x (100—control	[pct]/100) x (1/2,000)
Source: Section	13 2 4 — Aggregate I	landling and Storage Pil	es AP-42 Fift	h Edition Janua	rv 1995	
Codice. Gection	10.2.4 — Aggregate I	ianumg and otorage in	05, Al 42, Till	Tr Edition, burida	19 1000.	
	1 Ki	PUT DATA AND EMI	CCIANIC AN	CHINATIONS		
		#OI #DAIGA#AIND#EINI	Material			
Mean Wind	Act		Moisture	Control	Actual PM <sub>10</sub> Emission Rates	
Speed	Quantity T		Content	Efficiency		
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)_	(lb/hr)	(tpy)
8.6	1,150	4,000,000	6.5	95.0	0.02	0.04
	-	SOURCES C	F INPUT DA			
Para Para	ameter	· · · · · · · · · · · · · · · · · · ·	<u> </u>	ata Source		
Mean Wind Speed	đ	Tampa, FL, Climate of t	he States, Third	d Edition, 1985.		
Actual Quantity T		TEC, 1997.				
Material Moisture	<del> </del>	Average fuel moisture			- DI - 4- EDDI 1	- 4004
Control Efficiency	<u> </u>	Table 3-16, Fugitive E	missions from C	Joan-Fired Powe	er Plants, EPHI, Ju	ne 198 <u>4.</u>
		NOTES AND	ORSERVATIO	ons		
SI 4 4 404					•	
Snort-term (24-	nr average) dispersio	n modeling emissions re	ites assume we	st clamshell and	continuous unioa	ders operating
simultaneously,	, each at 1,150 tph fo	r a total unloading rate o	of 2,300 tph.			
·						
		<del></del>	<del></del>			
		DATA (	CONTROL			
Data Collected	d by:	A. Trbovich			Date:	01/20/97
Evaluated by:		A. Trbovich			Date:	01/20/97
Data Entered I	by:	A. Trbovich			Date:	01/20/97
Reviewed by:			_		Date:	

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MA	MATERIAL TRANSFER - FUGITIVE EMISSION SOURCES					
		FACILITY AND SO	URCE DESC	RIPTION		
Emission Sourc	e Description:	Fuel Handling — Convey	or B to Convey	or C		
Emission Contro	ol Method(s)/ID No.(s):	Enclosure and Dust Sup	pressant		· .	
Emission Point	ID:	FH-011		Transfer Point I	D(s):	
		EMISSION ESTIM	IATION EQU	ATIONS		
Emission (lb/hr) =	0.0011 x material transferre	ed (ton/hr) x [(average wind s	peed (mph)/5) <sup>1.3</sup> /	moisture content (	act)/2) <sup>1,4</sup> 1 x (100-con	trolineti/100)
		(tpy) x [(average wind speed				
Causas Castia	m 40.04 A	Janding and Change Di	AD 40 EW	L Falition Janua	100E	
Source: Secuo	n 15.2.4 – Aggregate i	landling and Storage Pil	es, AF-42, Fill	n Edidon, Janua	ту 1995.	
***************************************	•					
		PUT DATA AND EMI	Material	CULATIONS		
Mean Wind	. Ac	tual	Moisture	Control	Actual	PM <sub>10</sub>
Speed	Quantity T	ransferred	Content	Efficiency	Emission	Rates
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)_	(lb/hr)	(tpy)
8.6	2,300	4,000,000	6.5	90.0	0.10	0.09
		SOURCES C	F INPUT DA			
Pa	rameter		D	ata Source		
Mean Wind Spe	eed ··	Tampa, FL, Climate of t	the States, Third	d Edition, 1985.		
<b>Actual Quantity</b>		TEC, 1997.				
Material Moistu		Average fuel moisture o				
Control Efficien	су	Table 3-16, Fugitive E	missions From (	Coal – Fired Pow	er Plants, EPRI, Ju	ne 1984.
				* * *		
		NOTES AND	OR SERVATIO	าพร		
		NO ILO AND		<i>)</i> ,,,,		<del></del>
	-					-:
						:
	•					
		DATA (	<u>CONTROL</u>			
Data Collecte	ed by:	A. Trbovich			Date: 0	1/20/97
Evaluated by	<i>r</i> :	A. Trbovich			Date: 0	1/20/97
Data Entered	l by:	A. Trbovich			Date: 0	1/20/97
Reviewed by	•				Date:	

FH-012

Tampa Electric Company – F.J. Gannon Station 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 Transfer Point ID(s): **Emission Point ID:** FH-012 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)<sup>1.3</sup> / moisture content (pct)/2)<sup>1.4</sup>] 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 Material Actual PM<sub>10</sub> Mean Wind Actual Moisture **Control** Speed **Quantity Transferred** Content **Efficiency Emission Rates** (mph) (ton/hr) (ton/yr) (pct) (pct) (lb/hr) (tpy) 2,300 0.10 8.6 4,000,000 6.5 90.0 0.09 SOURCES OF INPUT DATA **Data Source Parameter** 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. Table 3.2.17-2, Workbook on Estimation of Emissions and Dispersion Modeling for Control Efficiency Fugitive Particulate Sources, UARG, September 1981. NOTES AND OBSERVATIONS DATA CONTROL Data Collected by: A, Trbovich Date: 01/20/97

Date:

Date:

Date:

01/20/97

01/20/97

A. Trbovich

A. Trbovich

Evaluated by:

Reviewed by:

Data Entered by:

Tampa Electric Company - F.J. Gannon Station

FH-013

EMISSION SOURCE TYPE

MATER	RIAL TRANSFER	- FUGITIVE EMISS			Figure:	
		FACILITY AND SO	URCE DESC	RIPTION		
Emission Source De	escription:	Fuel Handling - Rail Ca	ar to Hopper			
Emission Control M	ethod(s)/ID No.(s):	Enclosure and Dust Sup	pressant			
Emission Point ID:		FH-013		Transfer Point II	)(s):	
		EMISSION ESTIN	<u>IATION EQU</u>	<u>ATIONS</u>		
Emission (lb/hr) = 0.00	11 x material transferre	ed (ton/hr) x [(average wind s	peed (mph)/5) <sup>1,3</sup> /	moisture content (p	ct)/2) <sup>1.4</sup> ] x (100-co	ntrol[pct]/100)
Emission (tpy) = 0.001	1 x material transferred	(tpy) x [(average wind speed	d (mph)/5) <sup>1.3</sup> / moi	sture content (pct)/2	) <sup>1.4</sup> ] x (100—control	[pct]/100) x (1/2,000)
Source: Section 13	3.2.4 – Aggregate I	dandling and Storage Pil	les, AP-42, Fift	h Edition, Januar	y 1995.	
	IN	PUT DATA AND EMI	ISSIONS CAL	CULATIONS		
3.5			Material		A - 4 1	
Mean Wind	Act Quantity T		Moisture	Control Efficiency	Actual PM <sub>10</sub> Emission Rates	
Speed (mph)	(ton/hr)	ransterred (ton/yr)	Content (pct)	Efficiency (pct)	(lb/hr)	tpy)
8.6	2,300	4,000,000	6.5	95.0	0.05	0.04
<u> </u>		SOURCES (	OF INPUT DA	TA		
Paran	neter			ata Source		
			: - <b>-</b> -			
Mean Wind Speed Actual Quantity Train	natarrad	Tampa, FL, Climate of to TEC, 1997.	the States, Third	Edition, 1985.		·
Material Moisture C		Average fuel moisture	content; TEC, 19	994.		
Control Efficiency		Table 3-16, Fugitive E			r Plants, EPRI, Ju	ıne 1984.
				•		
		NOTES AND	OBSERVATIO	ONS		
	,			- ,		
	-			_		
	· .					
		DATA	CONTROL			
Data Collected i	oy:	A. Trbovich			Date:	01/20/97
Evaluated by:		A. Trbovich		Γ	Date:	01/20/97
Data Entered by	r:	A. Trbovich			Date:	01/20/97
Reviewed by:	•			г	Date:	

#### FH-014 Tampa Electric Company - F.J. Gannon Station 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 Transfer Point ID(s): **Emission Point ID:** FH-014 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)<sup>1.3</sup> / moisture content (pct)/2)<sup>1.4</sup>] 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 Material Mean Wind Actual Moisture Control Actual PM<sub>10</sub> Speed **Quantity Transferred** Content **Efficiency Emission Rates** (lb/hr) (mph) (ton/hr) (ton/yr) (pct) (tpy) (pct) 0.04 2,300 4,000,000 6.5 95.0 0.05 86 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. Table 3-16, Fugitive Emissions From Coal-Fired Power Plants, EPRI, June 1984. Control Efficiency NOTES AND OBSERVATIONS DATA CONTROL Data Collected by: A. Trbovich Date: 01/20/97

Date:

Date:

Date:

01/20/97

01/20/97

A. Trbovich

A. Trbovich

Evaluated by:

Reviewed by:

Data Entered by:

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

FH-015

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)<sup>1.3</sup> / moisture content (pct)/2)<sup>1.4</sup>] x (100-control[pct]/100) Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)<sup>1.3</sup> / moisture content (pct)/2)<sup>1.4</sup>] 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 Material Mean Wind Actual Moisture Control Actual PM<sub>10</sub> **Emission Rates** Speed **Quantity Transferred** Content **Efficiency** (lb/hr) (mph) (ton/yr) (pct) (pct) (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:

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MATE	RIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:		
		FACILITY AND SO	URCE DESC	RIPTION			
Emission Source D	Description:	Fuel Handling – Convey	or D1 to Conve	yor M1			
Emission Control I	Method(s)/ID No.(s):	Enclosure With Dust Sup	ppressant Spray	/s			
Emission Point ID:	• ·	FH-016		Transfer Point I	D(s):		
		EMISSION ESTIM	IATION EQUI	ATIONS			
Emission (Ib/br) = 0.0		ed (ton/hr) x [(average wind s	nood (mph) (5) 1.3 /			~~~\[net]/100)	
		(tpy) x [(average wind speed					
O Casia 4	1004 100001	1 III: Ot Dil	- AD 40 EM	· Calaire Janua	-: 4005		
Source: Section i	3.2.4 — Aggregate n	landling and Storage Pil	es, AP-42, Fill	<u>n Edition, Janua</u>	<u>ry 1995.</u>		
	<u>INI</u>	PUT DATA AND EMI	ISSIONS CAL Material	CULATIONS	<u> </u>		
Mean Wind	Act	ual	Moisture	Control	Actual	PM <sub>10</sub>	
Speed	Quantity To		Content	Efficiency	Emissio		
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(ib/hr)	(tpy)	
8.6	2,300	4,000,000	6.5	90.0	0.10	0.09	
		SOURCES C	OF INPUT DA				
<u>Para</u>	meter		<u>D</u>	Data Source			
Mean Wind Speed		Tampa, FL, Climate of t	the States, Third	d Edition, 1985.			
Actual Quantity Tra	ansferred	TEC, 1997.	_				
Material Moisture		Average fuel moisture of					
Control Efficiency		Table 3.2.17-2, Workbook on Estimation of Emissions and Dispersion Modeling for Fugitive Particulate Sources, UARG, September 1981.					
		NOTES AND	OBSERVATIO	)NS			
Short-term (24-h	ır average) dispersio	n modeling emissions ra	ates assume bot	th stackers oper	ating simultaneous	sly,	
each at 2,300 to	oh for a total rate of 4						
, coor at apro-p.	1101,4 10141 1415 51 -	,ooc tpii.		·	· ·		
					<u> </u>		
				_			
		DATA (	CONTROL				
Data Collected	by:	A. Trbovich		· [	Date:	01/20/97	
Evaluated by:		A. Trbovich			Date:	01/20/97	
Data Entered b	y:	A. Trbovich			Date:	01/20/97	
Reviewed by:				1	Date:		

FH-017

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MATERIAL TRANSFER — FUGITIVE EMISSION SOURCES Figure:							
FACILITY AND SOURCE DESCRIPTION							
Emission Source	Description:	Fuel Handling – Conve	or D2 to Conve	yor M2			
Emission Control Method(s)/ID No.(s):Enclosure With Dust Suppressant Sprays							
Emission Point II	D:	FH-017		Transfer Point II	D(s):		
		EMISSION ESTIM	NATION EQU	ATIONS			
Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5) <sup>1.3</sup> / moisture content (pct)/2) <sup>1.4</sup> ] x (100-control[pct]/100)  Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5) <sup>1.3</sup> / moisture content (pct)/2) <sup>1.4</sup> ] 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.							
	·	PUT DATA AND EMI	ISSIONS CAL	CULATIONS			
			Material				
Mean Wind	Act		Moisture	Control Efficiency (pct)	Actual PM <sub>10</sub>		
Speed (mph)	Quantity T (ton/hr)	ransferred (ton/yr)	Content (pct)		Emissio (lb/hr)	n Hates(tpy)	
					,		
8.6	2,300	4,000,000	6.5	90.0	0.10	0.09	
D		SOURCES (	OF INPUT DA				
<u> Par</u>	<u>rameter</u>			ata Source		·	
Mean Wind Spee	ed .	Tampa, FL, Climate of	the States, Third	l Edition, 1985.			
Actual Quantity	Transferred	TEC, 1997.					
Material Moisture		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.					
	Ī						
		NOTES AND	OBSERVATIO	ONS			
Short-term (24-	-hr average) dispersio	n modeling emissions re	ates assume bo	th stackers opera	ating simultaneous	siy.	
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 Collecte	d by:	A. Trbovich			Date:	01/20/97	
Evaluated by:	<u> </u>	A. Trbovich			Date:	01/20/97	
Data Entered	by:	A. Trbovich	_	1	Date:	01/20/97	
Reviewed by:				i	Date:		

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MATI	ERIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:		
		FACILITY AND SO	URCE DESC	RIPTION			
Emission Source	Description:	Fuel Handling - Convey	or M1 to Conve	yor E1			
Emission Control	Method(s)/ID No.(s):	Enclosure With Dust Su	ppressant Spray	<u></u>			
Emission Point ID	) <b>:</b>	FH-018		Transfer Point I	D(s):		
		EMISSION ESTIM	IATION EQU	<u>ATIONS</u>			
Emission (lb/hr) = 0.	0011 x material transferre	d (torv/hr) x [(average wind s	peed (mph)/5) <sup>1.3</sup> /	moisture content (	pct)/2) <sup>1.4</sup> ] x (100-co	ntrol[pct]/100) `	
		(tpy) x [(average wind speed					
Source: Section	13 2 4 – Aggregate F	landling and Storage Pil	es. AP-42. Fiftl	h Edition, Janua	ry 1995		
	ro.e /iggrogato:	<u>g arra otorago i r</u>	12,1				
		-	CCIONG CAL	CHEATIONS			
	JINI	<u>PUT DATA AND EMI</u>	Material Material	COLATIONS			
Mean Wind	Act	ual	Moisture	Control	Actual PM <sub>10</sub>		
Speed	Quantity T	ransferred	Content	Efficiency	Emissio	n Rates	
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)	
8.6	2,300	4,000,000	6.5	90.0	0.10	0.09	
	SOURCES OF INPUT DATA						
Para	ameter		D	ata Source			
Mean Wind Speed	4	Tampa, FL, Climate of t	he States. Third	l Edition, 1985.			
Actual Quantity T		TEC, 1997.		<u> </u>	·	,	
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.					
		<b>4</b>	,	-			
		•					
NOTES AND OBSERVATIONS							
Short-term (24-	hr average) dispersio	n modeling emissions re	ates assume bot	h stackers oper	ating simultaneou	sly,	
each at 2,300 tph for a total rate of 4,600 tph.							
·							
					_	·	
DATA CONTROL							
Data Collected	i by:	A. Trbovich			Date:	01/20/97	
Evaluated by:		A. Trbovich			Date:	01/20/97	
Data Entered I	by:	A. Trbovich			Date:	01/20/97	
Reviewed by:					Date:		

Tampa Electric Company - F.J. Gannon Station

FH-019

EMISSION SOURCE TYPE

TAM	TERIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:			
		FACILITY AND SO	URCE DESCI	RIPTION				
Emission Source	Description:	Fuel Handling - Convey	or M2 to Conve	yor E2				
Emission Contro	I Method(s)/ID No.(s):	Enclosure With Dust Sup	ppressant Spray	s				
Emission Point I	D:	FH-019		Transfer Point II	D(s):			
	EMISSION ESTIMATION EQUATIONS							
		d (tor/hr) x [(average wind s						
Emission (tpy) = $0.0$	0011 x material transferred	(tpy) x [(average wind speed	d (mph)/5) <sup>1.3</sup> / moi:	sture content (pct)/	2) <sup>1.4</sup> ] x (100control	[pct]/100) x (1/2,000)		
Source: Section	13.2.4 – Aggregate F	landling and Storage Pil	es, AP-42, Fifth	n Edition, Januar	y 1995.			
					-			
	IN	PUT DATA AND EMI	SSIONS CAL	CUI ATIONS				
	<i></i>	BOARDAIDA SAINDELIIII	Material	COLAMONO				
Mean Wind	Act	tual	Moisture	Control	Actual	PM <sub>10</sub>		
Speed	Quantity T	ransferred	Content	Efficiency	Emissio	n Rates		
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)		
8.6	2,300	4,000,000	6.5	90.0	0.10	0.09		
_		SOURCES C	F INPUT DA					
. Par	rameter		D	ata Source				
M WF1 O		T FI Oli	h. Casa. Third	Edition 400E				
Mean Wind Special Actual Quantity		Tampa, FL, Climate of the States, Third Edition, 1985.						
Material Moisture		TEC, 1997.  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	OBSERVATIO	)NS				
Short torm (24	br everage) dispersio	n modeling emissions re			ting simultaneou	alse		
•	<u> </u>		ites assume but	ii stackers opera	ang sinditaneou	ory,		
each at 2,300	tph for a total rate of 4	,600 tph.						
						_		
		DATA (	CONTROL					
Data Collecte	d by:	A. Trbovich			Date:	01/20/97		
Evaluated by:	:	A. Trbovich		. 1	Date:	01/20/97		
Data Entered	by:	A. Trbovich			Date:	01/20/97		
Reviewed by:					Date:			

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MATE	RIAL TRANSFER	- FUGITIVE EMISS			Figure:			
		FACILITY AND SO	URCE DESC	RIPTION				
Emission Source Description: Fuel Handling - Conveyor E1 to Storage Pile								
Emission Control M	Method(s)/ID No.(s):	Dust Suppressant						
Emission Point ID:		FH_020		Transfer Point I	D(s):			
		EMISSION ESTIN	IATION EQU	ATTONS				
		d (ton/hr) x [(average wind s						
Emission (tpy) = $0.001$	1 x material transferred	(tpy) x [(average wind spee	d (mph)/5) <sup>1.3</sup> / moi	sture content (pct)/	2) <sup>1.4</sup> ] x (100-control	[pct]/100) x (1/2,000)		
Source: Section 1	3.2.4 – Aggregate F	landling and Storage Pi	les, AP-42, Fift	h Edition, Janua	ry 1995.			
	INI	PUT DATA AND EM	ISSIONS CAL Material	CULATIONS				
Mean Wind	Act	บลไ	Moisture	Control	Actual PM <sub>10</sub>			
Speed	Quantity T		Content	Efficiency		n Rates		
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)		
8.6	2,300	4,000,000	6.5	90.0	0.10	0.09		
		SOURCES	OF INPUT DA					
Parar	neter			ata <u>Source</u>				
Mean Wind Speed		Tampa Fl. Climate of	the States Thir	f Edition 1985				
Actual Quantity Tra	nsferred	Tampa, FL, Climate of the States, Third Edition, 1985. TEC, 1997.						
Material Moisture C		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.						
		rugiuve ratticulate sources, OANG, September 1901.						
		NOTES AND	OBSERVATIO	ONS				
Short-term (24-h	r average) dispersio	n modeling emissions r	ates assume bo	th stackers oper	ating_simultaneou	sly,		
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	y:	A. Trbovich			Date:	01/20/97		
Reviewed by:					Date:			

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MATE	ERIAL TRANSFER	- FUGITIVE EMIS			Figure:	
	_	FACILITY AND SO	URCE DESC	RIPTION		
Emission Source	Description:	Fuel Handling - Conve	yor E2 to Storag	je Pile		·· 
Emission Control	Method(s)/ID No.(s):	Dust Suppressant		_		
Emission Point ID	:	FH-021		Transfer Point	ID(s):	
		EMISSION ESTIN	IATION EQU	ATIONS		
		d (ton/hr) x [(average wind s (tpy) x [(average wind speed				
Source: Section	13.2.4 – Aggregate F	landling and Storage Pi	les, AP-42, Fift	h Edition, Janua	ry 1995.	
	IN	PUT DATA AND EM	ISSIONS CAL	CULATIONS		
			Material	_		
Mean Wind	Act		Moisture	Control	Actual	
Speed	Quantity T		Content	Efficiency	Emissio	
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	2,300	4,000,000	6.5	90.0	0.10	0.09
		SOURCES (	OF INPUT DA	TA		
Para	meter			ata Source		
	_		·			
Mean Wind Speed		Tampa, FL, Climate of	the States, Third	d Edition, 1985.		
Actual Quantity To Material Moisture		TEC, 1997.		004		
Control Efficiency		Average fuel moisture of Table 3.2.17-2, Workb			and Dispersion M	odeling of
Control Emolency		Fugitive Particulate So			and broperoren in	ouching of
				- <del>F</del>		
		NOTES AND	OBSERVATION	ONS		
Short-term (24-1	hr average) dispersio	n modeling emissions r			ting simultaneousl	у.
	oh for a total rate of 4	<del>-</del>		·		<u>· ·                                    </u>
······································		·				
	· · · · · · · · · · · · · · · · · · ·					·
					,	
		DATA	CONTROL			
Data Collected	l by:	A. Trbovich		•	Date:	01/20/97
Evaluated by:		A. Trbovich			Date:	01/20/97
Data Entered t	by:	A. Trbovich			Date:	01/20/97
Reviewed by:					Date:	

Tampa Electric Company – F.J. dannon Station

EMISSION SOURCE TYPE FH-022 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 PM10 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: 21 Surface Area (m²) 16,758 215 Pile Width (m): Pile Height (m): Pile Length (m): 70 Affected Pile Actual PM<sub>10</sub> Meteorological Friction **Emission** Affected Velocity **Potential** Surface Area Period Area **Emission Rates**  $(g/m^2)$ (m<sup>2</sup>) (lb/hr) (m/s) (pct) (tpy) 1.30 14 6.38 670.3 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 1.80 65 4 670.3 0.81 0.0016 43,82 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 N/A 0.0050 Total SOURCES OF INPUT DATA **Parameter Data Source** Threshold Friction Velocity (m/s) Uncrusted coal pile, Table 13.2.5-2., AP-42, January 1995. Table 3.2.17-2, Workbook on Estimation and Dispersion Modeling Control Efficiency (pct) for Fugitive Particulate Sources, UARG, September 1991. Fuel Pile Dimensions (m) Estimated: ECT, 1997. Pile Surface Area (m²) Calculated: ECT, 1997. 1986 NWS data, processed per AP-42, ECT, 1997. Meteorological Periods Friction Velocity (m/s) Equation, Section 13.2.5, AP-42, January 1995. Potential Emission (g/m²) 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. Calculated: ECT, 1997. Affected Area NOTES AND OBSERVATIONS

	DATA CONTROL		
Data Collected by:	A. Trbovich	Date:	01/20/97
evaluated by:	A. Trbovich	Date:	01/20/97
ata Entered by:	A. Trbovich	Date:	01/20/97
eviewed by:		Date:	

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

FH-023a

STORAGE	STORAGE PILE WINDBLOWN FUGITIVE DUST EMISSION SOURCES Figure:						
		FACILI	ITY AND SOURC	E DESCRIPTION	ON		
Emission Source Description:		Fuel Storage — Ea	st Portion of South S	torage Pile			
Emission Control Method(s)/ID	No.(s):	Application of Che	mical Dust Suppresse	ant			
Emission Point ID:		FH-023a			Transfer Point ID(	s):	
			SION ESTIMATIO	ON EQUATION	,		
F-timeter of Continue DM super				1205 Industrial	Afad Espaion		
Estimates of fugitive PM <sub>10</sub> were	) made using p	rocedures contain	ed in AP-42, Secucii	13.2.5, Higustia	Wind Erosion.		_
Source: Section 13.2.5 - Indu	strial Wind Ero	sion, AP-42, Fifth	Edition, January 199	5	<u>-</u>		
		INPUT DAT	TA AND EMISSIC	NS CALCULA	TIONS		
Threshold Friction Velocity:	1.12		Control Efficiency:	90	pct		
Pile Length (m):	170	Pile Width (m):	91	Pile Height (m):	21	Surface Area (m <sup>2</sup> )	16,754
#f-Annual arign!		incien	Affected Pile	Affected	Actus	1014	
Meteorological Period	Friction Velocity	Emission Potential	Surface Area	Area		ll PM <sub>10</sub> on Rates	
Iaw	(m/s)	(g/m <sup>2</sup> )	(pct)	(m <sup>2</sup> )	(lb/hr)	(fpy)	
				1	Tradition 1	<del>\</del>	·
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 P	er Period	1.88	N/A	
				Total	N/A	0.0050	
		***************************************	COURSE CONTRACT				
Parameter		<u> </u>	SOURCES OF IN		Source		
i aiailietei	•			Data	Source		
Threshold Friction Velocity (m/s	(a	Uncrusted coal pi	ile, Table 13.2.5-2., A	NP-42. January 19	95.		
Control Efficiency (pct)	,		Workbook on Estimati			<del></del>	
		for Fugitive Partic	ulate Sources, UARG	, September 1991.			
Fuel Pile Dimensions (m)		Estimated: ECT, 1					
Pile Surface Area (m <sup>2</sup> )		Calculated: ECT,					
Meteorological Periods		· · ·	processed per AP-42				
Friction Velocity (m/s) Potential Emission (g/m²)		<del></del>	13.2.5, AP-42, Janu 13.2.5, AP-42, Janu			,	· · · · · · · · · · · · · · · · · · ·
Affected Pile Surface Area (pct)			Section 13.2.5, AP-42, Janu				-
Affected Area	<del>'</del>	Calculated: ECT,		C, GOLIGIA, 1000.	·	•	_
		_					
		N	OTES AND OBS	ERVATIONS			
<u> </u>							
•			•				
			DATA CON	TROL			
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:	Reviewed by:  Date:						

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

FH-023b

STORAGE I	STORAGE PILE WINDBLOWN FUGITIVE DUST EMISSION SOURCES Figure:						
		FACILI	TY AND SOURC	E DESCRIPTIO	<u>N</u>		
Emission Source Description:		Fuel Storage – We	st Portion of South S	torage Pile			
Emission Control Method(s)/iD	No.(s):	Application of Che	mical Dust Suppress	unt ·			
Emission Point ID:		FH-0236		-	Transfer Point ID(s	s): ·	
	EMISSION ESTIMATION EQUATIONS						
					<del> </del>		
Estimates of fugitive PM <sub>10</sub> were	made using p	rocedures containe	ed in AP-42, Section	13.2.5, Industrial W	find Erosion.		
Source: Section 13.2.5 - Indu	strial Wind Eros	sion, AP-42, Fifth I	Edition, January 1995	i			
		INPUT DAT	A AND EMISSIC	NS CALCULAT	IONS		
Threshold Friction Velocity:	1.12	m/s	Control Efficiency:	90 p			
Pile Length (m):	140	Pile Width (m):	125	Pile Height (m):	21	Surface Area (m <sup>2</sup> )	18,855
Meteorological	Friction	Emission	Affected Pile	Affected	Actus	I PM <sub>10</sub>	
Period	Velocity	Potential	Surface Area	Area		on Rates	
	(m/s)	(g/m²)	(pct)	(m <sup>2</sup> )	(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 65	1.33	7.81 16.52	14	754.2 2,639.6	0.16 1.20	0.0003	
65	1.48	43.82	4	754.2	0.91	0.0024	
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 P	or Poriod	2.11	N/A	
			Maximum	Total	N/A	0.0054	
•					747.		
		٠,	OURCES OF IN				
<u>Parameter</u>	_			Data S	Source	· · ·	
Threshold Friction Velocity (m/s	-1	I localeted coal nil	e, Table 13.2.5-2., A	P-42 January 100	<b>25</b>		
Control Efficiency (pct)	·/		orkbook on Estimati			<del></del>	
		for Fugitive Partice	ılate Sources, UARG	September 1991.			
Fuel Pile Dimensions (m)		Estimated: ECT, 1					
Pile Surface Area (m²)		Calculated: ECT, 1					
Meteorological Periods Friction Velocity (m/s)			rocessed per AP-42 13.2.5, AP-42, Janu				•
Potential Emission (g/m²)			13.2.5, AP-42, Janu				
Affected Pile Surface Area (pct)			Section 13.2.5, AP-4			•	
Affected Area		Calculated: ECT, 1					
			OTEO MARCO				
		N	OTES AND OBS	HVAIIONS			
			0.474.70.V				
Data Collected by:		A. Trbovich	DATA CON	HUL	1	Date: 0°	1/20/97
		<del></del>					
Evaluated by: A. Trbovich			•	Date: 0	1/20/97		
Data Entered by: A. Trbovich Date: 01/20/97					100107		
Data Entered by:  Reviewed by:	·	A. Trbovich				Date: 0  Date:	1/20/97

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MA.	TERIAL TRANSFER	- FUGITIVE EMISS			Figure:			
		FACILITY AND SC	URCE DESC	RIPTION				
Emission Source	e Description:	Fuel Handling - Underg	ground Reclaim	System to Conv	eyor F1			
Emission Contro	Emission Control Method(s)/ID No.(s):Enclosure With Dust Suppressant							
Emission Point	ID:	FH-024		Transfer Point I	D(s):			
		EMISSION ESTIN	IATION EQU	ATIONS				
Emission (lb/hr) =	0.0011 x material transferre	d (ton/hr) x [(average wind s	peed (mph)/5) <sup>1.3</sup> /	moisture content (	pct)/2) <sup>1.4</sup> ] x (100–co	ntrol[pct]/100)		
Emission (tpy) = 0	.0011 x material transferred	(tpy) x [(average wind speed	d (mph)/5) <sup>1.3</sup> / moi	sture content (pct)/	2) <sup>1.4</sup> ] x (100-control	[pct]/100) x (1/2,000)		
Source: Sectio	n 13.2.4 – Aggregate h	 landling and Storage Pi	les, AP~42, Fift	h Edition, Janua	ry 1995.			
				÷				
	INI	PUT DATA AND EM	ISSIONS CAL	CULATIONS				
		CINDATA AND LIN	Material					
Mean Wind	Act	ual	Moisture Content	Control	Actual	PM <sub>10</sub>		
Speed	Quantity T	ransferred		Efficiency	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 C	OF INPUT DA					
Pa	Parameter Data Source							
Mean Wind Spe	ed	Tampa, FL, Climate of	the States. Third	d Edition, 1985.				
Actual Quantity		TEC, 1997.						
Material Moistu		Average fuel moisture	content; TEC, 19	994.				
Control Efficien	су	Table 3.2.17-2, Workb			and Dispersion M	odeling of		
		Fugitive Particulate So	urces, UARG, Se	eptember 1981.		<del></del>		
		NOTES AND	OBSERVATIO	DNS				
Short-term (24	–hr average) dispersio	n modeling emissions re	ates assume 4 r	elaimers operati	ng simultaneously	•		
each at 400 tp	oh for a total rate of 1,6	00 tph.						
		DATA	CONTROL					
5 . 6			CONTROL		n .	0.1./0.0./0=		
Data Collecte		A. Trbovich				01/20/97		
Evaluated by	<b>/:</b>	A. Trbovich			Date:	01/20/97		
Data Entered	l by:	A. Trbovich			Date:	01/20/97		
Reviewed by	•				Date:			

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MATI	ERIAL TRANSFER	I - FUGITIVE EMIS	SION SOURC	ES	Figure:			
		FACILITY AND SC	<b>URCE DESC</b>	RIPTION				
Emission Source	Description:	Fuel Handling – Underg	ground Reclaim	System to Conv	eyor F4			
Emission Control	Method(s)/ID No.(s):	Enclosure With Dust Su	ppressant					
Emission Point ID	):	FH-025		Transfer Point I	D(s):			
		EMISSION ESTIN	IATION EQU	ATIONS				
Emission (lb/hr) = 0. Emission (tpy) = 0.0	0011 x material transferred	ed (ton/hr) x [(average wind s (tpy) x [(average wind spee	speed (mph)/5) <sup>1.3</sup> / d (mph)/5) <sup>1.3</sup> / moi	moisture content ( isture content (pct)/	pct)/2) <sup>1.4</sup> ] x (100–co 2) <sup>1.4</sup> ] x (100–contro	ntrol[pct]/100) l[pct]/100) x (1/2,000)		
Source: Section	13.2.4 – Aggregate I	landling and Storage Pi	les, AP-42, Fift	h Edition, Janua	ry 1995.			
			ICCIONIC ON					
	JN	PUT DATA AND EM	<i>Material</i>	CULATIONS				
Mean Wind	Act	tual	Moisture	Control	Actual	PM		
			Content	Efficiency	Actual PM <sub>10</sub> Emission Rates			
Speed (mph)	Quantity T	(ton/yr)		•	(lb/hr)			
8.6	400	4,000,000	(pct) 6.5	(pct) 90.0	0.02	0.09		
		SOURCES	DE INPUT DA	ΤΔ				
Para Para	ameter	33333		ata Source		.:		
Mean Wind Speed	4	Tampa, FL, Climate of	the States This	d Edition 1985				
Actual Quantity To		TEC, 1997.	the Otates, Third	Laition, 1505.				
Material Moisture		Average fuel moisture	content: TEC. 19	994				
Control Efficiency		Table 3.2.17-2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.						
					·			
		NOTES AND	OBSERVATIO	ONS				
Short-term (24-	hr average) dispersio	n modeling emissions ra			ng simultaneously	· ·		
each at 400 tph	for a total rate of 1,6	600 tph.		_				
	,							
,.					1			
		<del>-</del>						
		DATA	CONTROL					
Data Collected	l by:	A. Trbovich			Date:	01/20/97		
Evaluated by:		A. Trbovich			Date:	01/20/97		
Data Entered I	oy:	A. Trbovich			Date:	01/20/97		
Reviewed by:					Date:			

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MAT	TERIAL TRANSFER	- FUGITIVE EMIS	SION SOURC	ES	Figure:	
		FACILITY AND SC	<b>URCE DESC</b>	RIPTION		
Emission Source	Description:	Fuel Handling - Under	ground Reclaim	System to Conv	eyor F3	
Emission Contro	ol Method(s)/ID No.(s):	Enclosure With Dust Su	ppressant	<u>_</u>		
Emission Point (	D:	FH-026		Transfer Point	D(s):	
		EMISSION ESTIN	MATION EQU	ATIONS		
Emission (lb/hr) = (	0.0011 x material transferre	d (ton/hr) x [(average wind s	speed (mph)/5) <sup>1.3</sup>	moisture content (	pct)/2) <sup>1.4</sup> ] x (100-co	ntrol[pct]/100)
		(tpy) x [(average wind spee				
					1005	
Source: Section	13.2.4 – Aggregate F	landling and Storage Pi	les, AP-42, Fift	h Edition, Janua	ry 1995.	:
				<del>-</del>		<del></del>
	IN	PUT DATA AND EM	ISSIONS CAL	CULATIONS		
			Material	_		•
Mean Wind	Act		Moisture	Control	Actual	
Speed		ransferred	Content	Efficiency		n 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 DA			
Parameter Data Source					·····	
Mean Wind Spec	nd	Tampa, FL, Climate of	the States Thir	d Edition 1985		
Actual Quantity		TEC, 1997.	the Olates, Thire	<u>a Edition, 1500.</u>		
Material Moistur		Average fuel moisture	content; TEC, 1	994.		
Control Efficience		Table 3.2.17-2, Workb	ook on Estimati	ion of Emissions	and Dispersion M	lodeling of
		Fugitive Particulate So	urces, UARG, S	eptember 1981.		
		NOTES AND	ORSERVATIO	วพร		
Short-term (24-	-hr average) dispersio	n modeling emissions r			na simultaneously	1.
-	h for a total rate of 1,6			<u>-</u>		-
		-				<del></del>
		<u>-</u>				<del>-</del>
		DATA	CONTROL			
Data Collecte	d bv:	A. Trbovich			Date:	01/20/97
Evaluated by:		A. Trbovich	-		1-	01/20/97
Data Entered		A. Trbovich				01/20/97
Reviewed by:	<u> </u>				Date:	

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MATE	ERIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:	
		FACILITY AND SC	URCE DESC	RIPTION		
Emission Source	Description:	Fuel Handling - Underg	ground Reclaim	System to Conve	eyor F2	
Emission Control	Method(s)/ID No.(s):	Enclosure With Dust Su	ppressant			
Emission Point ID	:	FH-027		Transfer Point I	D(s):	
		EMISSION ESTIN	MATION EQU	ATIONS		
Emission (lb/br) = 0.0	M11 v material transferre	d (ton/hr) x [(average wind s	need (mph)/5)1.3	moisture content (	oct)/2) <sup>1,4</sup> 1 x (100—cor	trolineti/100)
Emission (tpy) = $0.00$	011 x material transferred	(tpy) x [(average wind spee	d (mph)/5) <sup>1.3</sup> / mo	isture content (pct)/	2) <sup>1.4</sup> ] x (100—control	[pct]/100) x (1/2,000)
Courses Continu	1904 Ammonato I	landling and Ctorne Di	les AD 40 59	h Edition Janua	m, 100E	
Source: Section	13.2.4 – Aggregate F	landling and Storage Pi	<u>ies, AP-42, Fiπ</u>	n Edition, Janua	ry 1995	
						·-
	<u> </u>	PUT DATA AND EM		CULATIONS	<u> </u>	
Mean Wind	Act	uel	Material Moisture	Control	Actual	PM
Speed	Quantity T		Content	Efficiency	Actual PM <sub>10</sub> 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 DA	TA		
Parameter Data Source						
Mean Wind Speed		Tampa, FL, Climate of	the States, Third	d Edition, 1985.	<u>_</u>	
Actual Quantity To Material Moisture		TEC, 1997.  Average fuel moisture	content: TEC 19	994	• .	
Control Efficiency		Table 3.2.17-2, Workb			and Dispersion M	odeling of
		Fugitive Particulate So			<u> </u>	
		·				
		NOTES AND	OBSERVATIO	ONS		
Short-term (24-	hr average) dispersio	n modeling emissions r	ates assume 4 r	elaimers operati	na simultaneously	
	for a total rate of 1,6			-	-	
each at 400 tph	ioi a total late of 1,0	<del>-</del>				
	•					
_						
,		DATA	CONTROL			
Data Callanta	l han		CONTINUE		Dato	01/00/07
Data Collected		A. Trbovich				01/20/97
Evaluated by:		A. Trbovich		ļ	Date:	01/20/97
Data Entered b	by:	A. Trbovich			Date:	01/20/97
Reviewed by:					Date:	

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MATE	RIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:	
		FACILITY AND SO	URCE DESC	RIPTION		
Emission Source (	Description:	Fuel Handling Convey	or F1 to Conve	yor G1/G2		
Emission Control	Method(s)/ID No.(s):	Enclosure With Dust Su	ppressant Spray	/s	<u>.                                    </u>	
Emission Point ID:		FH-028		Transfer Point I	D(s):	
		EMISSION ESTIN	IATION EQU	<u>ATIONS</u>		
Emission (lb/hr) = 0.0	011 x material transferre	d (ton/hr) x [(average wind s	peed (mph)/5) <sup>1.3</sup> /	moisture content (	pct)/2) <sup>1.4</sup> ] x (100—co	ntrol[pct]/100)
Emission (tpy) = 0.00	11 x material transferred	(tpy) x [(average wind speed	i (mph)/5) <sup>1.3</sup> / moi	sture content (pct)/	2) <sup>1.4</sup> ] x (100-contro	[pct]/100) x (1/2,000)
Source: Section 1	3.2.4 - Aggregate h	landling and Storage Pi	les, AP-42, Fift	h Edition, Janua	ry 1995.	
		PUT DATA AND EMI	ISSIONS CAL	CULATIONS		, <del>-</del>
	,,,,		Material			
Mean Wind	Act		Moisture	Control		PM <sub>10</sub>
Speed (mph)	Quantity T (ton/hr)	ransferred (ton/yr)	Content (pct)	Efficiency (pct)	(lb/hr)	n Rates (tpy)
			6.5	90.0	0.02	0.09
8.6	400	4,000,000			0.02	0.09
Para	meter	SOURCES (	OF INPUT DA	<i>TA</i> )ata Source		9.00
raia	Tarameter Bata course					
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	- Content	Table 3.2.17-2, Workb			and Dispersion M	odeling of
		Fugitive Particulate So	urces, UARG, Se	eptember 1981.		
						·
				·		•
		NOTES AND	OBSERVATIO	ONS		
Short-term (24-1	ır average) dispersio	n modeling emissions re	ates assume 4 r	elaimers operati	ng simultaneously	
each at 400 tph	for a total rate of 1,6	600 tph.	_			
					_	
	-		CONTROL			
Data Collected	by:	A. Trbovich			Date:	01/20/97
Evaluated by:		A. Trbovich			Date:	01/20/97
Data Entered b	y:	A. Trbovich			Date:	01/20/97
Reviewed by:					Date:	

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MATER	RIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:		
		FACILITY AND SO	URCE DESC	RIPTION			
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:	1	FH-0 <b>29</b>		Transfer Point I	D(s):		
		EMISSION ESTIM	ATION EQUA	ATIONS			
Emission (lb/br) = 0.00	11 x material transferre	d (ton/hr) x [(average wind s	peed (mph)/5) <sup>1.3</sup> /	moisture content (	oct)/2) <sup>1.4</sup> 1 x (100-co	atrolineti/100)	
Emission (tpy) = 0.001	1 x material transferred	(tpy) x [(average wind speed	(mph)/5) <sup>1.3</sup> / moi	sture content (pct)/	2) <sup>1.4</sup> ] x (100–control	[pct]/100) x (1/2,000)	
0			- AD 40 EW	- Father - Lamin	4005		
Source: Section 13	s.2.4 – Aggregate h	landling and Storage Pil	es <u>, AP-42, Fitti</u>	<u>ı Edition, Janua</u>	ry 1995.		
	_						
		PUT DATA AND EMI	SSIONS CAL Material	CULATIONS			
Mean Wind	Act	ual	Material Moisture Content	Control	Actual	PM <sub>10</sub>	
Speed	Quantity T	ransferred		Efficiency	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	
	1	SOURCES	F INPUT DA	TA	l		
Paran	neter		D	ata Source			
Mean Wind Speed Actual Quantity Trai	nsferred	Tampa, FL, Climate of t TEC, 1997.	ne States, i niro	Edition, 1985.		<u></u>	
Material Moisture C		Average fuel moisture of	ontent; TEC, 19	94.			
Control Efficiency		Table 3.2.17-2, Workb	ook on Estimati	on of Emissions	and Dispersion M	odeling of	
		Fugitive Particulate Soc	rces, UARG, Se	eptember 1981.			
		NOTES AND	OBSERVATIC	ONS			
Short-term (24-hr	average) dispersio	n modeling emissions re	ites assume 4 re	elaimers operatio	ng simultaneously	•	
each at 400 tph fo	or a total rate of 1,6	00 tph.					
<u> </u>					·		
		DATA (	CONTROL				
Data Collected t	oy:	A. Trbovich			Date:	01/20/97	
Evaluated by:		A. Trbovich			Date:	01/20/97	
Data Entered by	<u> </u>	A. Trbovich			Date:	01/20/97	
Reviewed by:	,		•		Date:		

FH-030

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MATE	ERIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:		
		FACILITY AND SO	URCE DESC	RIPTION			
Emission Source	Description:	Fuel Handling - Convey	or F3 to Conve	yor G1/G2			
Emission Control	Method(s)/ID No.(s):	Enclosure With Dust Sup	pressant Spray	/s			
Emission Point ID	:	FH-030		Transfer Point I	D(s):		
		EMISSION ESTIM	ATION EQU	ATIONS			
	0014	ed (ton/hr) x [(average wind s		·		-11111 (00)	
		(tpy) x ((average wind speed					
Source: Section	<u> 13.2.4 – Aggregate F</u>	landling and Storage Pil	es, AP-42, Fift	h Edition, Janua	гу 1995.		
	_	-					
	<u>IN</u>	PUT DATA AND EMI	SSIONS CAL Material	CULATIONS			
Mean Wind	Act	ual	Moisture	Control	Actual	PM <sub>10</sub>	
Speed	Quantity T		Content	Efficiency	Emissio	n 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 C	F INPUT DA	***************************************			
Parameter Data Source						-	
Mean Wind Speed Tampa, FL, Climate of the States, Third Edition, 1985.							
Actual Quantity To		TEC, 1997.					
Material Moisture Control Efficiency		Average fuel moisture of			and Dispersion M	adaling of	
Control Efficiency		Table 3.2.17-2, Workbook on Estimation of Emissions and Dispersion Modeling of Fugitive Particulate Sources, UARG, September 1981.					
		NOTES AND	OBSERVATIO	ONS			
   Short-term (24-	hr average) dispersio	n modeling emissions re	ites assume 4 r	elaimers operation	ng simultaneously		
	for a total rate of 1,6		-	•	<u> </u>	_	
each at 400 tph	ioi a total rate of 1,0	ю фіі.				_	
			· · · · · · · · · · · · · · · · · · ·				
_							
		DATA (	CONTROL				
Data Collected	l by:	A. Trbovich			Date:	01/20/97	
Evaluated by:		A. Trbovich			Date:	01/20/97	
Data Entered b	by:	A. Trbovich			Date:	01/20/97	
Reviewed by:					Date:		

FH-031

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MAT	MATERIAL TRANSFER - FUGITIVE EMISSION SOURCES						
		FACILITY AND SO	URCE DESC	RIPTION			
Emission Source	e Description:	Fuel Handling - Convey	or F2 to Conve	yor G1/G2			
Emission Contro	ol Method(s)/ID No.(s):	Enclosure With Dust Su	ppressant Spray	/s		<u> </u>	
Emission Point I	D:	FH-031		Transfer Point I	D(s):		
		EMISSION ESTIM	IATION EQU	ATIONS			
Emission (tpy) = 0.	0011 x material transferred	d (ton/hr) x [(average wind s (tpy) x [(average wind speed landling and Storage Pil	<u>1 (mph)/5)<sup>1.3</sup> / moi</u>	isture content (pct)/	2) <sup>1.4</sup> ] x (100–control)	trol[pct]/100) pct]/100) x (1/2,000)	
	IN	PUT DATA AND EMI		CULATIONS			
Mean Wind	Act	uai	Material Moisture	Control	Actual	PM <sub>40</sub>	
Speed	Quantity T		Content	Efficiency	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 Efficience		Table 3.2.17-2, Workb			and Dispersion Me	odeling of	
		Fugitive Particulate Soc	ırces, UARG, Se	eptember 1981.	-	_	
		NOTES AND	OBSERVATIO	)NS			
Short-term (24-	-hr average) dispersio	n modeling emission rat	es assume 4 re	laimers operatin	g simultaneously,		
each at 400 tp	h for a total rate of 1,6	00 tph.					
	· .						
		DATA (	CONTROL				
Data Collecte	d by:	A. Trbovich			Date: (	1/20/97	
Evaluated by:	<u> </u>	A. Trbovich			Date: (	1/20/97	
Data Entered	by:	A. Trbovich			Date: (	1/20/97	
Reviewed by:				ĺ	Date:		

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MA	TERIAL TRANSFER	<u> – FUGITIVE EMISS</u>	SION SOURC	ES	Figure:	
		FACILITY AND SO	<b>URCE DESC</b>	RIPTION		
Emission Source	e Description:	Fuel Handling - Convey	yor G1 to Hamm	ermill Crusher 1		
Emission Contro	ol Method(s)/ID No.(s):	Enclosure With Dust Sup	ppressant			
Emission Point	ID:	FH-032		Transfer Point II	D(s):	***************************************
		EMISSION ESTIM	IATION EQUA	ATIONS		
		ed (ton/hr) x [(average wind s				
Emission (tpy) = 0	.0011 x material transferred	(tpy) x ((average wind speed	d (mph)/5) <sup>1.3</sup> / moi	sture content (pct)/:	2) <sup>1.4</sup> ] x (100-control	[pct]/100) x (1/2,000)
Source: Section	n 13.2.4 – Aggregate F	landling and Storage Pil	les, AP-42, Fifti	h Edition, Januar	ry 1995.	
	INI	PUT DATA AND EMI	ISSIONS CAL Material	CULATIONS		
Mean Wind	Act	hiel	Material Moisture	Control	Actual	PM.
Speed	Quantity T		Content	Efficiency	Emission	
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	800	4,000,000	6.5	90.0	0.03	0.09
I		SOURCES	OF INPUT DA			
<u>Pa</u>	rameter	_ 	<u>D</u>	ata Source		
		, 				
Mean Wind Spe		Tampa, FL, Climate of t	the States, Third	l Edition, 1985.		
Actual Quantity		TEC, 1997.	· · · · · · · · · · · · · · · · · · ·			
Material Moistur		Average fuel moisture of			d Dispersion M	
Control Efficience	cy	Table 3.2.17-2, Workb Fugitive Particulate Sou			and Dispersion M	odeling of
		<u> Pugitive ranticulate cou</u>	Irces, UANG, Ge	sprember 1901.	<del></del> ,	
		NOTES AND	OBSERVATIO	)NS		
				-		
		DATA	CONTROL			
Data Collecte	ed by:	A. Trbovich			Date: (	01/20/97
Evaluated by	<u>:</u>	A. Trbovich		!	Date: (	01/20/97
Data Entered	by:	A. Trbovich		!	Date: (	01/20/97
Reviewed by:	<b>:</b> ,			ľ	Date:	

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MA	ERIAL TRANSFER	- FUGITIVE EMISS			Figure:			
		FACILITY AND SO	URCE DESC	RIPTION	1			
Emission Source	Description:	Fuel Handling - Convey	or G2 to Hamm	ermill Crusher 2				
Emission Contro	ol Method(s)/ID No.(s):	Enclosure With Dust Su	ppressant					
Emission Point I	D:	FH-033 Transfer Point			D(s):			
		EMISSION ESTIN	IATION EQU	ATIONS				
		d (ton/hr) x [(average wind s (tpy) x [(average wind speed						
Source: Section	13.2.4 – Aggregate I	landling and Storage Pil	es, AP-42, Fift	h Edition, Janua	ry 1995.			
	1N	PUT DATA AND EMI	SSIONS CAL	CULATIONS				
		**************************************	Material		<u> </u>			
Mean Wind	Act	ruai	Moisture	Control	Actual	PM <sub>10</sub>		
Speed Quantity		ransferred	Content	Efficiency	Emission Rates			
<u>(mph)</u>	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)		
8.6	800	4,000,000	6.5	90.0	0.03	0.09		
		SOURCES C	FINPUT DA					
<u>Parameter</u>		Data Source						
Mean Wind Spec	ed	Tampa, FL, Climate of t	the States, Third	Edition, 1985.				
Actual Quantity		TEC, 1997.						
Material Moistur		Average fuel moisture content; TEC, 1994.  Table 3.2.17-2, Workbook on Estimation of Emissions and Dispersion Modeling of						
Control Efficience	ey e				and Dispersion M	odeling of		
		Fugitive Particulate Sou						
		NOTES AND	OBSERVATIO	)NS				
				-				
		DATA (	CONTROL					
Data Collecte	d by:	A. Trbovich			Date:	01/20/97		
Evaluated by	<u> </u>	A. Trbovich			Date:	01/20/97		
Data Entered	by:	A. Trbovich			Date:	01/20/97		
Reviewed by:	·	<u> </u>			Date:			

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MAT	TERIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:	
		FACILITY AND SO	URCE DESC	RIPTION		
Emission Source	e Description:	Fuel Handling – Hamme	ermill Crusher 1	to Conveyor H1		
Emission Contro	ol Method(s)/ID No.(s):	Enclosure With Dust Su	ppressant Spray	/s		_
Emission Point I	ID:	FH-034		Transfer Point I	D(s):	
		EMISSION ESTIM	IATION EQUI	ATIONS		
Emission (lb/hr) =	0.0011 x material transferre	ed (ton/hr) x [(average wind s	peed (mph)/5) <sup>1.3</sup> /	moisture content (	pct)/2) <sup>1.4</sup> ] x (100-cor	trol[pct]/100)
		(tpy) x [(average wind speed				
Source: Section	n 19 2 4 . Aggregate k	Jandling and Storage Bil	log AD. 42 Eit	h Edition Janua		<del>-</del>
Source: Secuor	1 13.2.4 — Aggregate F	landling and Storage Pil	es, AP-42, FIII	n Ediuon, Janua	ly 1995.	
	IN	PUT DATA AND EMI		CULATIONS		
Mean Wind	Act	hiel	Material Moisture	Control	Actual	PM
Speed	Quantity T		Content	Efficiency	Emission	
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	800	4,000,000	6.5	90.0	0.03	0.09
8.6	800	4,000,000	6.5	90.0	0.03	0.09
1		SOURCES C	OF INPUT DA			
Pa	<u>rameter</u>		D	Data Source		
Mean Wind Spec	ad	Tampa, FL, Climate of t	the States Thir	d Edition 1985		
Actual Quantity		TEC, 1997.	nie States, franc	Luluon, 1905.		•
Material Moistur		Average fuel moisture o	content; TEC, 19	994.	•	-
Control Efficience	су	Table 3.2.17-2, Workb			and Dispersion Mo	odeling of
<del>_</del>		Fugitive Particulate Sou	ırces, UARG, Se	eptember 1981.		
l						
		NOTES AND	OBSERVATIO	DNS		_
<del></del>				-		
	<u> </u>					
L_,			_			
						•
		DATA	CONTROL			
Data Collecte	ed by:	A. Trbovich		_	Date: 0	01/20/97
Evaluated by	<u> </u>	A. Trbovich			Date: (	01/20/97
Data Entered	by:	A. Trbovich			Date: 0	01/20/97
Reviewed by:	:			1	Date:	

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MA <sup>-</sup>	TERIAL TRANSFER	- FUGITIVE EMIS	SION SOURÇ	ES	Figure:			
		FACILITY AND SC	URCE DESC	RIPTION				
Emission Sourc	e Description:	Fuel Handling – Hamm	ermill Crusher 2	to Conveyor H2				
Emission Contro	oi Method(s)/ID No.(s):	Enclosure With Dust Su	ppressant	<del></del>				
Emission Point	ID:	FH-035		Transfer Point I	D(s):			
		EMISSION ESTIN	IATION EQU	ATIONS				
Emission (lb/hs) -	0 0011 v material transferre	d (ton/hr) x [(average wind s	nood (mah) /51.3	I maistura aantant (	net)/2)1.41 × (100—20)	etralineti(100)		
Emission (tpy) = 0	.0011 x material transferred	(tpy) x [(average wind spee	d (mph)/5) <sup>1.3</sup> / mo	isture content (pct)/	2) <sup>1.4</sup> ] x (100-control	[pct]/100) x (1/2,000)		
Source: Section	n 13.2.4 – Aggregate F	landling and Storage Pi	les, AP-42, Fift	h Edition, Janu <u>a</u>	ry 1995.			
	IN	PUT DATA AND EM	ISSIONS CAL Material	CULATIONS				
Mean Wind	Act	ual	Moisture	Control	Actual PM <sub>10</sub>			
Speed	Quantity T	ransferred	Content	Efficiency	Emissio			
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)		
8.6	800	4,000,000	6.5	90.0	0.03	0.09		
		SOURCES (	OF INPUT DA					
	<u>rameter</u>	T	Data Source  Tampa, FL, Climate of the States, Third Edition, 1985.					
Mean Wind Spe Actual Quantity		TEC, 1997.						
Material Moistur		Average fuel moisture content; TEC, 1994.						
Control Efficience		Table 3.2.17-2, Workb			and Dispersion M	odeling of		
•		Fugitive Particulate So	urces, UARG, S	eptember 1981.				
	_	VATEOWN		31/0				
		NOTES AND	OBSERVATIO	JNS				
						_		
	•							
					· · ·			
		DATA	CONTROL					
Data Collecte	ed by:	A. Trbovich			Date:	01/20/97		
Evaluated by	:	A. Trbovich			Date:	01/20/97		
Data Entered	l by:	A. Trbovich			Date:	01/20/97		
Reviewed by	•				Date:			

FH-036-FH-041

Tampa Electric – F.J. Gannon Station

EMISSION SOURCE TYPE

MATERIAL TRANSF	ER - CON	ITROLLED EI	MISSION SOUR	CES	Figure:	
	FAC	CILITY AND S	OURCE DESCR	RIPTION		
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 th	rough 6			
Emission Point ID:		FH -036 throug		Transfer Point ID		
	EN	<u>IISSION ESTI</u>	MATION EQUA	<u>TIONS</u>		
Emission (lb/hr) = Flow Rate (scfm) x (gr	ninkan v (1 lh/7	/ 000 mmin) v (60 m	in flori			
Emission (tpy) = Flow Rate (scfm) x (graintenance) $x = x + x = x + x = x = x = x = x = x = $				s (hrs/yr) x (1 ton/2,00	Ю Њ)	
Source: ECT, 1997.		_				
Cource. Lov, 1337.						
Operating Hours: 24	INPUT L Hrs/Day		<i>IISSIONS CAL</i> ( Days/Wk	<i>EULATIONS</i> 8,760 l	Hro Mr	
Operating riours. 24	пі з/раў	,	Days/VK	8,700	115/11	
		Transfer	Exhaust	Exit Grain	Actual	
Transfer Points Controlle		Point	Flow Rate	Loading	Emissio	
By Common Control Devi	ice	ID No.	(scfm)	(gr/scf)	(lb/hr)	(tpy)
Unit 1 Fuel Bunker Loading			9,600	0.0023	0.19	0.99
Unit 2 Fuel Bunker Loading Unit 3 Fuel Bunker Loading			9,600 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
		SUIDEE	OF INPUT DAT	<u> </u>		
Parameter		GOOMOLO		a Source		
Operating Hours	TEC, 1997.					
Exhaust Flow Rate	· ·	Vendor data.				
Exit Grain Loading	TEC, 1997.	Based on FDEF	Permit No. AO29	-250140.		
		NOTES AND	OBSERVATIO	NS		
All D-4I						
All Rotoclones are conservatively a	a or permuses	e operating whe	never any bunkeri	ng occurs.	•	
<u>'</u>						
		DATA	CONTROL			
Data Collected by:	A. Trbovic	h		Date:	01/20/97	
Evaluated by:	A. Trbovic	h		Date:	01/20/97	
Data Entered by:	A. Trbovic	h		Date:	01/20/97	
Reviewed by:				Date:		

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MA	TERIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:	
		FACILITY AND SO	URCE DESC	RIPTION		
Emission Sourc	e Description:	Fuel Handling — Conve	or D1 to Conve	yor G1/G2 (By-	Pass Storage)	
Emission Contro	ol Method(s)/ID No.(s):	Enclosure With Dust Su	ppressant Spray	/s		-
Emission Point	ID:	FH042		Transfer Point I	D(s):	
		EMISSION ESTIN	IATION EQU	<u>ATIONS</u>		
Emission (lb/hr) =	0.0011 x material transferre	d (ton/hr) x [(average wind s	peed (mph)/5) <sup>1.3</sup> /	moisture content (	pct)/2) <sup>1.4</sup> ] x (100–coi	ntrol[pct]/100)
Emission (tpy) = 0	.0011 x material transferred	(tpy) x [(average wind speed	d (mph)/5) <sup>1.3</sup> / mo	isture content (pct)/	2) <sup>1.4</sup> ] x (100-control	[pct]/100) x (1/2,000)
Source: Section	n 13.2.4 – Aggregate h	landling and Storage Pi	les. AP-42. Fift	h Edition. Janua	ry 1995.	
				•		
	181	PUT DATA AND EM	ICCIONIC CAI	CHIATIONS		
		BUI DANA AND EMI	Material	<u>:COLATIONS:</u>		
Mean Wind	Act	ual	Moisture	Control	Actual	PM <sub>10</sub>
Speed	Quantity T		Content	Efficiency	Emissio	n Rates
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	2,300	4,000,000	6.5	90.0	0.10	0.09
		SOURCES C	FINPUT DA			
	rameter			Data Source		
Mean Wind Spe- Actual Quantity		Tampa, FL, Climate of TEC, 1997.	the States, Third	1 Edition, 1985.		
Material Moistur		Average fuel moisture	content; TEC, 1	994.		
Control Efficience	су	Table 3.2.17-2, Workb Fugitive Particulate So	ook on Estimati	on of Emissions	and Dispersion M	odeling of
		NOTES AND	OBSERVATIO	ONS		
If the fuel stack	ers and fuel stacker by	passes are operated sin	nultaneously, th	e total amount o	f fuel handled will	
not exceed 4,	600 tph.					
						•
		DATA	CONTROL			
Data Collecte	ed 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:	

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MATE	RIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:	
		FACILITY AND SO	URCE DESC	RIPTION		
Emission Source D	escription:	Fuel Handling - Convey	or D2 to Conve	yor G1/G2 (By-F	ass Storage)	
Emission Control M	lethod(s)/ID No.(s):	Enclosure With Dust Sup	ppressant Spray	's		
Emission Point ID:		FH-043		Transfer Point II	)(s):	
		EMISSION ESTIM	ATION EQU	ATIONS		
Emission (tpy) = 0.001	1 x material transferred	ed (ton/hr) x [(average wind s   (tpy) x [(average wind speed   landling and Storage Pil	1 (mph)/5) <sup>1,3</sup> / moi	sture content (pct)/2	) <sup>1.4</sup> ] x (100—control[ <sub>[</sub>	
Source. Section 13	5.2.4 - Aggregate i	andling and Storage Pil	es, AF-42, Fill	r Edition, Januar	y 1995.	
			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			
Т	IN	PUT DATA AND EMI	Material	CULATIONS		
Mean Wind	Act	tual	Moisture	Control	Actual I	PM.
Speed		ransferred	Content	Efficiency	Emission	
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	2,300	4,000,000	6.5	90.0	0.10	0.09
		SOURCES C	F INPUT DA	TA	L	
Paran	neter		D	ata Source		
Mean Wind Speed		Tampa, FL, Climate of t	he States, Third	Edition, 1985.		
<b>Actual Quantity Tra</b>	nsferred	TEC, 1997.				
<u>Material Moisture C</u>	ontent	Average fuel moisture of				
Control Efficiency		Table 3.2.17-2, Workberrugitive Particulate Sou			and Dispersion Mo	deling of
		NOTES AND	OBSERVATIO	)NS		
If the fuel stackers	and fuel stacker by	passes are operated sim	ultaneously, the	total amount of	fuel handled will	
not exceed 4,600	tph.					
			•			
		DATA (	CONTROL			
Data Collected I	by:	A. Trbovich			ate: 0	1/20/97
Evaluated by:		A. Trbovich		C	Date: 0	1/20/97
Data Entered by		A. Trbovich				1/20/97
Reviewed by:				C	ate:	

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

VEHIC	ULAR TRAF	FIC ON UNPA					RCES	Figure:	
			FACILITY AN	D SOURCE	DESCRIP	TION			
Emission Sc	ource Description	on:`	Fuel Handling -	Storage Pile I	Maintenanc	:e	_		
Emission Co	ontrol Method(s	)/ID No.(s):	Dust Suppressa	nt Sprays					
Emission Po	oint ID:		FH-044						
			EMISSION E	STIMATION	EQUATI	ONS			
Emission (lb/h	r) = 0.36 x 5.9 x (s	:/12) x (S/30) x (W/3	) <sup>0.7</sup> x (w/4) <sup>0.5</sup> x ((3	65-p)/365) x veh	icle miles per	hour (VMT/	hr) x (100-cc	ntrol [pct]/100)	
Emission (ton)	/ут) = 0.36 x 5.9 x	(s/12) x (S/30) x (W/	3) <sup>0.7</sup> x (w/4) <sup>0.5</sup> x ((	(365–p)/365) x ve	hicle miles p	er year (VMT	/yr) x (1 ton/	2,000 lb) x (100	-control[pct]/100)
Source: Se	ction 13.2.2 - I	Jnpaved Roads,	AP-42, Fifth Ed	lition, January	1995.				
		INP	UT DATA AND	ENISSION	SCALCI	II ATION	S		
Operating H	lours:		Hrs/Day		Days/Wk	4AUAUXAA	<u> </u>	5,824	Hrs/Yr
								-	
s	S	W	w	P	Vehicle	Miles	Control		ual PM <sub>10</sub>
	<del>-</del>	Vehicle Weight	No. of Wheels	Rainfall Days			Efficiency		sion Rates
(pct)	(mph)	(ton)			(VMT/hr)	(VMT/yr)	(pct)	(lb/hr)	(tpy)
8.4	2.5	48	6	107	10.0	58,240	90.0	0.75	2.17
			SOURC	ES OF INPU	JT DATA				
Para	ameter				Data Sou	ırce			
Operating F	lours	ECT, 1997. Es	timated.						
Silt Content	·		, Section 13.2.2	, AP-42, Janu	ary 1995.				
Vehicle Spe		TEC, 1997. Av							
Vehicle Wei		TEC, 1997. Av							
No. of Whee		TEC, 1997. Av		41 408E D					
Rainfall Day Vehicle Mile		ECT, 1997. Est	States, Third Edi	Won, 1985. De	ita for lam	pa, rL			
Control Effic		<del> </del>	, Workbook on I	Estimation of F	missions a	nd Disner	sion Modeli	na for Fuaiti	ve Particulate
			i, September 19			ina Biopon		ng ioi rugia	ro i di libulato
			NOTES .	AND OBSER	<b>VATIONS</b>	3			
Ectimate of	vohicle miles tr	aveled based on	the use of four	buildozare on	tho etoraga	nilos			
Laumate of	venicle nines u	aveled based on	ule use of loar	bulluoza's Off	uie sturage	plies.			
<del>-</del>			_			_			
		<u> </u>						<u>-</u>	
			D	ATA CONTR	OL _				
Data Coll	ected by:	A. Trbovich						Date:	01/20/97
Evaluated	by:	A. Trbovich						Date:	01/20/97
Data Ente	red by:	A. Trbovich						Date:	01/20/97
Reviewed	by:							Date:	

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

AH-001

## Tampa Electric Company - F.J. Gannon Station 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 Transfer Point ID(s): **Emission Point ID:** AH-001 EMISSION ESTIMATION EQUATIONS Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)<sup>1.3</sup> / moisture content (pct)/2)<sup>1.4</sup>] 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)

	IÑ	PUT DATA AND EM	ISSIONS CAL	CULATIONS		
Mean Wind	Act		Material Moisture	Control	Actual	PM <sub>10</sub>
Speed	Quantity T	ransferred	Content	Efficiency	Emissio	n Rates
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
8.6	400	362,025	6.5	85.0	0.03	0.01

Data Source
Tampa, FL, Climate of the States, Third Edition, 1985.
TEC, 1997.
TEC, 1997. Average fuel moisture content.
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 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

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)<sup>1.3</sup> / moisture content (pct)/2)<sup>1.4</sup>] x (100-control[pct]/100) Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)<sup>1.3</sup> / moisture content (pct)/2)<sup>1.4</sup>] 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.

	IN.	PUT DATA AND EM	Material	<u>-CULATIONS</u>		
Mean Wind	Act	tual	Moisture	Control	Actual	
Speed	Quantity T	ransferred	Content	Efficiency	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.

 $5,989 \text{ MMBtu/hr} \times 0.2 / 14,492 \text{ Btu/lb TDF} \times 8,760 \text{ hrs/yr} \times 1 \text{ ton/2,000 lb} = 362,025 \text{ tpy}$ 

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 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

Tampa Electric Company - F.J. Gannon Station

AH-003

	EMISSION SOURCE TYPE						
MA	TERIAL TRANSFER	- FUGITIVE EMIS			Figure:		
		FACILITY AND SO	DURCE DESC	RIPTION	180		
Emission Source	e Description:	Auxiliary Handling - Ho	opper to Convey	or T			
Emission Contr	ol Method(s)/ID No.(s):	Enclosure and Dust Sup	pressant				
Emission Point	ID:	AH-003		Transfer Point I	D(s):		
	EMISSION ESTIMATION EQUATIONS						
					14		
Emission (lb/hr) =	0.0011 x material transferre	d (ton/hr) x [(average wind s (tpy) x [(average wind spee	peed (mph)/5) 1.0	moisture content (	pct)/2) ***] x (100-co	ntrol(pct]/100)	
Emission (фу) = 0	.0011 X material dansierred	(thy) x [(average wind spee	a (mpn)/5) / moi	stare content (pct)/	2) ] X (100-conuo	[pet]/100) x (1/2,000)	
Source: Section	n 13.2.4 – Aggregate ł	landling and Storage Pi	les. AP-42. Fift	h Edition, Janua	ry 1995.		
1	99-9						
	IN	PUT DATA AND EM		CULATIONS			
	_		Material				
Mean Wind		ual	Moisture	Control	Actual		
Speed		ransferred	Content	Efficiency		n 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						
Pa	rameter			ata Source			
Mean Wind Spe	ed	Tampa, FL, Climate of	the States, Third	Edition, 1985.			
<b>Actual Quantity</b>	Transferred	TEC, 1997.					
Material Moistu	re Content	TEC, 1997. Average fu	el moisture con	tent.			
Control Efficien	су	Table 3-16, Fugitive E	mission from Co	oal-Fired Power	Plants, EPRI, Jun	e 1984.	
						<del></del>	
ĺ							
ł							
		NOTES AND	OBSERVATIO	ONS			
Annual quantity	transferred based on l	Jnits 1 through 4 firing a	n 80/20 coal/TE	E bland at maxi	mum capacity for	8 760 breke	
					main capacity for	0,700 183/31.	
5,989 MMBtu/	/hr x 0.2 / 14,492 Btu/lb	TDF x 8,760 hrs/yr x 1	ton/2,000 lb = 3	62,025 tpy			
Alternate fuel in	cludes TDF and WDF.	The actual annual quan	tity of TDF and	WDF transferred	may vary, but the	actual total	
quantity of alter	nate fuel transferred wi	Il not exceed 362,025 tp	py.				
		DATA	CONTROL			100	
Data Collecte	ed by:	A. Trbovich			Date:	01/08/97	
Evaluated by	<b>'</b> :	A. Trbovich			Date:	01/08/97	
Data Entered	l by:	A. Trbovich			Date:	01/08/97	
Reviewed by	:				Date:		

Tampa Electric Company - F.J. Gannon Station

EMISSION SOURCE TYPE

.....

AH-004

#### 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)<sup>1.3</sup> / moisture content (pct)/2)<sup>1.4</sup>] 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 Material Mean Wind Actual PM<sub>10</sub> Actual Moisture Control **Emission Rates** Speed **Quantity Transferred** Content Efficiency (mph) (ton/hr) (ton/yr) (pct) (pct) (lb/hr) (tpy) 8.6 400 362.025 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:

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

AH-005

		EMISSIEN	SOUNGERIN	<u></u>		
MA	TERIAL TRANSFER	R - FUGITIVE EMIS	SION SOURC	ES	Figure:	
		FACILITY AND SC	OURCE DESC	RIPTION		
Emission Sourc	e Description:	Auxiliary Handling - Co	onveyor U to Co	nveyors H1 and l	H2	
Emission Contro	ol Method(s)/ID No.(s):	Enclosure and Dust Su	pressant			
Emission Point	ID:	AH-005		Transfer Point II	D(s):	
		EMISSION ESTIN	MATION EQU			
Emission (tpy) = 0	.0011 x material transferred	ed (ton/hr) x [(average wind s I (tpy) x [(average wind spee Handling and Storage Pi	d (mph)/5) <sup>1.3</sup> / mo	isture content (pct)/	2) <sup>1.4</sup> ] x (100–contro	ntrol[pct]/100) l[pct]/100) x (1/2,000
		-				
	IN	PUT DATA AND EM	ISSIONS CAL	CULATIONS		
	_	_	Material	_		
Mean Wind Speed		tual ransferred	Moisture Content	Control Efficiency		I PM <sub>10</sub> on 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 DA	TA .		
Pa	rameter			ata Source		
Mean Wind Spe	ed	Tampa, FL, Climate of	the States, Third	d Edition, 1985.		
Actual Quantity		TEC, 1997.				
<u>Material Moistur</u> Control Efficiend		TEC, 1997. Average full Table 3-16, Fugitive E			Plants, EPRI, Jur	 ne 1984.
		NOTES AND	ORSEDVATIO	DA/Q		
				THE STATE OF THE S		
Annual quantity	transferred based on t	Units 1 through 4 firing a	an 80/20 coal/11	OF blend at maxii	num 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 = 3	62,025 tpy	•	
Alternate fuel in	cludes TDF and WDF.	The actual annual quan	tity of TDF and	WDF transferred	may vary, but the	actual total
quantity of alter	nate fuel transferred w	ill not exceed 362,025 tp	py.			
						ŗ
		DATA	CONTROL			
Data Collecte	ed by:	A. Trbovich		Į (	Date:	01/08/97
Evaluated by	:	A. Trbovich			Date:	01/08/97
Data Entered	by:	A. Trbovich		1	Date:	01/08/97
Reviewed by:				1	Date:	
· · · · · · · · · · · · · · · · ·						

# **APPENDIX B.2**

# ACTUAL PM<sub>10</sub> EMISSION CALCULATION SPREADSHEETS

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 Material Mean Wind Moisture Control Actual PM<sub>10</sub> Actual **Quantity Transferred** Content **Efficiency Emission Rates** Speed (mph) (ton/yr) (pct) (pct) (lb/hr) (tpy) 1,150 882,681 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 $_{ m 10}$ 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

Date:

Reviewed by:

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 Material Control Mean Wind Actual Moisture Actual PM<sub>10</sub> Speed **Quantity Transferred** Content Efficiency **Emission Rates** (mph) (ton/yr) (lb/hr) (ton/hr) (pct) (pct) (tpy) 1,150 70.0 0.15 8.6 882,681 6.5 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. Table 3-10, Fugitive Emissions From Coal-Fired Power Plants, EPRI, June 1984. Control Efficiency NOTES AND OBSERVATIONS Actual PM<sub>10</sub> 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 A. Trbovich Data Collected by: Date: 05/23/97 Evaluated by: A. Trbovich Date: 05/23/97 Data Entered by: A. Trbovich Date: 05/23/97 Reviewed by: Date:

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MA	TERIAL TRANSFER	R – FUGITIVE EMIS			Figure	
		FACILITY AND SC	OURCE DESC	RIPTION		
Emission Sourc	e Description:	Fuel Handling – West C	lamshell to We	st Hopper		
Emission Contro	ol Method(s)/ID No.(s):	Side Enclosure				
Emission Point	ID:	FH-005		Transfer Point I	D(s):	
		EMISSION ESTIN	IATION EQU	ATIONS		
Emission (lb/hr) =	0,0011 x material transferre	ed (ton/hr) x [(average wind a	speed (mph)/5) <sup>1.3</sup>	moisture content (	pct)/2) <sup>1.4</sup> ] x (100-c	ontrol[pct]/100)
Emission (tpy) = 0	.0011 x material transferred	(tpy) x [(average wind spee	d (mph)/5) <sup>1,3</sup> / mo	isture content (pct)/	2) <sup>1.4</sup> ] x (100-contro	ol[pet]/100) x (1/2,000
Source: Section	n 13.2.4 – Aggregate I	Handling and Storage Pi	les. AP-42. Fift	h Edition, Janua	ry 1995.	
				······································		<u> </u>
	IN	PUT DATA AND EM	ISSIONS CAI	CIII ATIONS		
		**************************************	Material			
Mean Wind	•	tual	Moisture	Control		al PM <sub>10</sub>
Speed (mph)	Quantity_I (ton/hr)	ransferred (ton/yr)	Content (pct)	Efficiency (pct)	Emissi (lb/hr)	on Rates (tpy)
8.6	1,150	882,681	6.5	70.0	0.15	0.06
Da	rameter	SOURCES (	<i>DF INPUT DA</i>	<i>TA</i> Data Source		
га	rameter		<u>L</u>	data Source		•
Mean Wind Spe	ed	Tampa, FL, Climate of	the States, Third	d Edition, 1985.		
Actual Quantity		TEC, 1997.				
Material Moistur Control Efficien		Average fuel moisture of Table 3-10, Fugitive E			ar Plante EPRI	Lune 1984
CONTROL EMCIEN	·y	Tuble o 10, Tuginite E	inissions From	Jour Filed For	or rianto, Errir, c	June 1504.
		NOTES AND	OBSERVATIO	)NS		
Actual PM <sub>10</sub> em	issions based on 2,648	3,044 tpy of fuel used.	Actual fuel use is	s the average of	the 1995 and 199	96 actual fuel
	334 tons and 2,767,753					
		<u> </u>	the been along	aball bassa sa-	Ai	
		e equally divided among	tne barge ciam	snell, barge con	unuous, and rail	unioading
systems, or 8	82,681 tons per system	<b>1.</b>				_
Actual short—te	rm emissions based or	clamshell and continue	ous unloading s	ystems operating	g simultaneously	at 1,150 tph, each
		DATA	CONTROL			
Data Collecte	ed by:	A. Trbovich			Date:	05/23/97
Evaluated by	:	A. Trbovich			Date:	05/23/97
Data Entered	 l by:	A. Trbovich			Date:	05/23/97
Reviewed by	•				Date:	

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MATE	RIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:		
		FACILITY AND SO	URCE DESC	RIPTION			
Emission Source I	Description:	Fuel Handling – Continu	uous Unloader t	o Conveyor A			
Emission Control	Method(s)/ID No.(s):	Enclosure		_			
Emission Point ID:	Emission Point ID: FH-006 Transfer Point ID(s):						
		EMISSION ESTIM	IATION EQU	ATIONS			
Emission (lb/hr) = 0.0	0011 x material transferre	d (ton/hr) x [(average wind s	peed (mph)/5) <sup>1.3</sup> /	moisture content (r	oct)/2) <sup>1.4</sup> 1 x (100—cor	trol[oct]/100)	
		(tpy) x [(average wind speed					
Source: Section 1	13 2 4 Aggregate h	landling and Storage Pil	os AP-42 Fift	h Edition Januar	ry 1995	·	
Source. Secuoii i	13.2.4 — Aggregate i	ianuming and Storage Fil	es, Ar —42, Fill	ii Luiuon, vanua	19 1990.		
	IN	PUT DATA AND EMI	SSIONS CAL Material	CULATIONS			
Mean Wind	Act	ual	Moisture	Control	Actual	PM <sub>10</sub>	
Speed	Quantity T	ransferred	Content	Efficiency	Emissio	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 C	FINPUT DA	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
<u>Para</u>	meter			ata Source	<del></del>		
Mean Wind Speed	1	Tampa, FL, Climate of t	the States Third	l Edition 1985			
Actual Quantity Tr		TEC, 1997.	ne otates, mile	<u> </u>	· · · · · · · · · · · · · · · · · · ·		
Material Moisture		Average fuel moisture of	content; TEC, 19	994.			
Control Efficiency		Table 3-16, Fugitive E	missions From (	Coal-Fired Powe	er Plants, EPRI, Ju	ne 1984.	
			oporaly es	2470			
		NOTES AND					
Actual PM <sub>10</sub> emiss	sions based on 2,648	,044 tpy of fuel used. A	ctual 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 deliver	y was assumed to be	equally divided among	the barge clam	shell, barge con	tinuous, and rail u	nloading	
systems, or 882	,681 tons per system	<u> </u>			· .		
Actual short-term	emissions based on	clamshell and continuo	ous unloading sy	ystems operating	simultaneously a	t 1,150 tph, each	
		DATA	CONTROL				
Data Collected	by:	A. Trbovich			Date: (	05/23/97	
Evaluated by:		A. Trbovich			Date: (	5/23/97	
Data Entered b	y:	A. Trbovich			Date: (	05/23/97	
Reviewed by:					Date:		

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MAT	ERIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:		
		FACILITY AND SO	URCE DESC	RIPTION			
Emission Source	Description:	Fuel Handling - Convey	or A to Continu	ous Feeder			
Emission Contro	l Method(s)/ID No.(s):	Enclosure		•			
Emission Point II	D:	FH-007		Transfer Point I	 D(s):		
		EMISSION ESTIM	ATION EQU		_(-),-		
Emission (lb/hr) = 0	0.0011 x material transferre	d (ton/hr) x [(average wind s (tpy) x [(average wind speed	peed (mph)/5) <sup>1.3</sup> /	moisture content (	pct)/2) <sup>1.4</sup> ] x (100~co	ntrol[pct]/100)	
Emission (tpy) = $0.0$	0011 X material transferred	(tpy) x ((average wind speed	(mpn)/5) *** / moi	sture content (pct)/	2) ···] X (100—control	[pet]/100) x (1/2,000)	
Source: Section	13.2.4 – Aggregate I	landling and Storage Pil	es, AP-42, Fift	h Edition, Janua	ry 1995.		
						· · · · · ·	
	īN	PUT DATA AND EMI	SSIONS CAL	CIII ATIONS			
	·····		Material				
Mean Wind	Act	ual	Moisture	Control	Actual	PM <sub>10</sub>	
Speed	Quantity T		Content	Efficiency	Emissio		
(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						
<u>Par</u>	ameter		C	ata Source			
Mara Wind Care	٠	T	L. Characa Third	4 F-34 400F			
Mean Wind Spee Actual Quantity		Tampa, FL, Climate of t	ne States, Inire	1 Edition, 1985.			
Material Moisture		Average fuel moisture of	ontent; TEC, 19	994.			
Control Efficience	у	Table 3-16, Fugitive E	missions From (	Coal-Fired Pow	er Plants, EPRI, Ju	ine 1984.	
		NOTES AND	OBSERVATIO	DNS			
Actual PM <sub>10</sub> emi	ssions based on 2,648	,044 tpy of fuel used. A	ctual fuel use is	the average of	the 1995 and 1996	actual fuel	
used 2 528 3	34 tons and 2,767,753	tons respectively	•		,,		
					· · · · · · · · · · · · · · · · · · ·		
Actual fuel delive	ery was assumed to be	e equally divided among	the barge clam	shell, barge con	tinuous, and rail u	ınloading	
systems, or 88	2,681 tons per system	l•					
Actual short—ter	m emissions based or	clamshell and continuo	us unloading s	ystems operating	g simultaneously a	t 1,150 tph, each	
	.,,			•	-		
		ΠΑΤΑΙ	CONTROL				
Data Collecte	d bv:	A. Trbovich	<u> </u>	<u></u>	Date:	05/23/97	
					<u> </u>		
Evaluated by:		A. Trbovich				05/23/97	
Data Entered	by:	A. Trbovich		· 	Date:	05/23/97	
Reviewed by:					Date:		

Tampa Electric Company - F.J. Gannon Station

EMISSION SOURCE TYPE

MAT	TERIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:		
	FACILITY AND SOURCE DESCRIPTION						
Emission Source	e Description:	Fuel Handling – West H	opper to Conve	yor B			
Emission Contro	Emission Control Method(s)/ID No.(s):Enclosure						
Emission Point I	D:	FH-009		Transfer Point I	D(s):		
	EMISSION ESTIMATION EQUATIONS						
		d (ton/hr) x [(average wind s					
Emission (tpy) $\approx 0$ .	.0011 x material transferred	(tpy) x [(average wind speed	d (mph)/5) <sup>1.3</sup> / moi	sture content (pct)/	2) <sup>1.4</sup> ] x (100—control	[pct]/100) x (1/2,000)	
Source: Section	n 13.2.4 – Aggregate F	landling and Storage Pi	les, AP-42, Fift	h Edition, Janua	ry 1995.		
	IN	PUT DATA AND EMI		CULATIONS			
Mean Wind	Act	l	Material Moisture	Control	Actual	DM	
Speed	Quantity T	i	Content	Efficiency	Actual Emissio		
(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						
Pai	Parameter Data Source						
Mean Wind Spec	ed .	Tampa, FL, Climate of	the States, Third	Edition, 1985.			
Actual Quantity		TEC, 1997.					
Material Moistur		Average fuel moisture of					
Control Efficience	÷y	Table 3-16, Fugitive E	missions from C	coal-Fired Powe	r Plants, EPRI, Ju	ne 1984.	
	·						
		NOTES AND	OBSERVATIO	ONS			
Actual PM <sub>10</sub> emi	issions based on 2,648	,044 tpy of fuel used. A	ctual fuel use is	the average of	the 1995 and 1996	actual fuel	
used, 2,528,3	34 tons and 2,767,753	tons, respectively.					
Actual fuel deliv	ery was assumed to be	equally divided among	the barge clam	shell, barge con	tinuous, and rail u	nloading	
systems, or 88	32,681 tons per system	<u>.</u>					
Actual short—ter	rm emissions based on	clamshell and continue	us unloading sy	stems operating	simultaneously a	t 1,150 tph, each	
	·····						
		DATA	CONTROL				
Data Collecte	ed 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:		

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MAT	ERIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:		
		FACILITY AND SO	URCE DESC	RIPTION			
Emission Source	Description:	Fuel Handling – Convey	or B to Convey	or C		-	
Emission Control	Method(s)/ID No.(s):	Enclosure					
Emission Point ID	):	FH-011		Transfer Point I	D(s):		
		EMISSION ESTIN	IATION EQU	ATIONS			
Emission (lb/hr) = 0.	.0011 x material transferre	d (ton/hr) x [(average wind s	peed (mph)/5) <sup>1.3</sup>	/ moisture content (	pet)/2) <sup>1.4</sup> 1 x (100—co	trol[pct]/100)	
		(tpy) x [(average wind speed					
Source: Section	19 2 4 — Aggregato i	landling and Storage Pil	loc AD_42 Fift	h Edition Janua	n. 1995		
Source: Section	13.2.4 – Aggregate r	tandling and Storage Fil	185, AF - 42, FIIL	n Edition, Janua	ry 1995.	_	
	IN	PUT DATA AND EMI	SSIONS CAL Material	CULATIONS			
Mean Wind	Act	ual	Moisture	Control	Actual	PM <sub>10</sub>	
Speed	Quantity T	ransferred	Content	Efficiency	Emissio	• -	
(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							
Para	ameter			Data Source			
Moon Wind Spee		Tampa El Climata ef	the States Thir	d Edition 100E			
Mean Wind Spee Actual Quantity T		Tampa, FL, Climate of the TEC, 1997.	uie States, Imit	a Edition, 1985.			
Material Moisture		Average fuel moisture of	content; TEC, 19	994.			
Control Efficiency	<u>/</u>	Table 3-16, Fugitive E	missions From	Coal-Fired Pow	er Plants, EPRI, Ju	ine 1984.	
		NOTES AND	OBSERVATIO	ONS			
Actual PM <sub>10</sub> emis	ssions based on 2,648	3,044 tpy of fuel used. A	ctual fuel use is	s the average of	the 1995 and 1996	actual fuel	
used, 2,528,33	34 tons and 2,767,753	tons, respectively.					
Actual fuel delive	ry was assumed to be	e equally divided among	the barge clam	shell, barge con	tinuous, and rail u	nloading	
_	2,681 tons per system	_				<b>3</b>	
3,310,113, 01 00.	E,001 tolls per system	··					
			<u> </u>		·		
			CONTROL				
Data Collected	d hv:	A. Trbovich			Date:	05/23/97	
Evaluated by:							
•		A. Trbovich				05/23/97	
Data Entered	by:	A. Trbovich				05/23/97	
Reviewed by:					Date:		

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MAT	ERIAL TRANSFER	- FUGITIVE EMIS	SION SOURC	ES	Figure:			
		FACILITY AND SC	OURCE DESC	RIPTION				
Emission Source	Description:	Fuel Handling – Rail Ca	ur to Hopper					
Emission Control	Method(s)/ID No.(s):	Partial Enclosure						
Emission Point ID	);	FH-013		Transfer Point II	D(s):			
		EMISSION ESTIN	IATION EQU	ATIONS				
Emission (tpy) = 0.0	011 x material transferred	d (ton/hr) x [(average wind a (tpy) x [(average wind speed landling and Storage Pi	d (mph)/5) <sup>1.3</sup> / moi	sture content (pct)/:	2) <sup>1.4</sup> ] x (100—control			
	IN	PUT DATA AND EM	ISSIONS CAL	CULATIONS				
			Material	1	<u> </u>			
Mean Wind Speed	Act Quantity T		Moisture Content	Control Efficiency	Actual Emission	• •		
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)		
8.6	2,300	882,681	6.5	70.0	0.29	0.06		
	SOURCES OF INPUT DATA							
Para	<u>ameter</u>			ata Source				
Mean Wind Speed	d	Tampa, FL, Climate of	the States, Third	Edition, 1985.				
Actual Quantity T		TEC, 1997.		·	·	•		
Material Moisture Control Efficiency		Average fuel moisture of Table 3-16, Fugitive E		-	er Plants, EPRI, Ju	ne 1984.		
		NOTES AND	ODSEDVATIA	ane.				
A-4 DM			,		N- 4005 4 4006			
		3,044 tpy of fuel used.	Clual Tuel USE IS	s use average of t	me 1990 <b>and</b> 1996	actual tuel		
used, 2,528,33	4 tons and 2,767,753	tons, respectively.						
Actual fuel delive	ry was assumed to be	e equally divided among	the barge clam	shell, barge con	tinuous, and rail u	nloading		
systems, or 882	2,681 tons per system	l <u>*</u>	· ·					
		DATA	CONTROL					
Data Collected	d by:	A. Trbovich			Date:	05/23/97		
Evaluated by:		A. Trbovich			Date:	05/23/97		
Data Entered I	by:	A. Trbovich			Date:	05/23/97		
Reviewed by:				I	Date:	:		

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MA <sup>·</sup>	TERIAL TRANSFER	- FUGITIVE EMIS	SION SOURC	ES	Figure:			
	FACILITY AND SOURCE DESCRIPTION							
Emission Sourc	e Description:	Fuel Handling — Hoppe	r to Conveyor L		<u>.</u>			
Emission Contro	Emission Control Method(s)/ID No.(s):Enclosure							
Emission Point	ID:	FH-014		Transfer Point I	D(s):			
		EMISSION ESTIN	MATION EQU	ATIONS				
Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5) <sup>1.3</sup> / moisture content (pct)/2) <sup>1.4</sup> ] x (100-control[pct]/100)  Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5) <sup>1.3</sup> / moisture content (pct)/2) <sup>1.4</sup> ] 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.								
	IN	PUT DATA AND EM	ISSIONS CAL	CULATIONS				
Mean Wind	Act		Material Moisture	Control	A	DM		
Speed	Act Quantity T		Content	Efficiency	Actual Emission			
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)		
8.6	2,300	882,681	6.5	85.0	0.15	0.03		
SOURCES OF INPUT DATA								
Parameter Data Source								
Mean Wind Spe	ed	Tampa, FL, Climate of	the States. Third	d Edition, 1985.				
<b>Actual Quantity</b>		TEC, 1997.						
Material Moistur		Average fuel moisture						
Control Efficience	<u> </u>	Table 3–16, Fugitive E	missions From (	Coal-Fired Powe	er Plants, EPKI, Ju	ne 1984.		
		NOTES AND	OBSERVATIO	DNS				
Actual PM <sub>10</sub> em	issions based on 2,648	,044 tpy of fuel used.			the 1995 and 1996	actual fuel		
used, 2,528,3	334 tons and 2,767,753	tons, respectively.						
Actual fuel deliv	ery was assumed to be	equally divided among	the barge clam	shell, barge con	tinuous, and rail u	nloading		
systems, or 8	82,681 tons per system	•						
			_					
A SOURCE STATE OF THE STATE OF						***		
			CONTROL					
Data Collecte	ed by:	A. Trbovich			Date: (	)5/23/97		
Evaluated by	:	A. Trbovich			Date: (	5/23/97		
Data Entered	by:	A. Trbovich			Date: (	5/23/97		
Reviewed by	•			ĺ	Date:			

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

		EMISSICIA	SOUNCEIT	4-		<u> </u>	
МА	TERIAL TRANSFER	- FUGITIVE EMIS	SION SOURC	ES	Figure:	,	
		FACILITY AND SC	<b>URCE DESC</b>	RIPTION			
Emission Sour	ce Description:	Fuel Handling - Conve	yor L to Convey	or D1/D2			
Emission Conti	rol Method(s)/ID No.(s):	Enclosure					
Emission Point	ID:	FH-015		Transfer Point I	D(s):		
	EMISSION ESTIMATION EQUATIONS						
					14		
		od (torv/hr) x [(average wind s l (tpy) x [(average wind spee					
Lineson (py) =	5.0011 × Hamorian d'alliatorio	( <del>p)) x [[avarage wire spec</del>	a (mpn)re) 7 me.	state service (pog)	<u> </u>	pogriosy x (vizioso)	
Source: Section	on 13.2.4 – Aggregate I	landling and Storage Pi	les, AP-42, Fift	h Edition, Janua	ry 1995.		
_					-		
	IN	PUT DATA AND EM	ISSIONS CAL	CULATIONS			
		<u> </u>	Material				
Mean Wind		tual	Moisture	Control	Actual		
Speed (mph)	Quantity T	(ton/yr)	Content (pct)	Efficiency (pct)	Emissio (lb/hr)	n Hates (tpy)	
8.6	2,300	882,681	6.5	85.0	0.15	0.03	
	-	SOURCES (	OF INPUT DA				
Pa Pa	arameter		<u>D</u>	ata Source			
Mean Wind Spe	eed	Tampa, FL, Climate of	the States, Third	d Edition, 1985.			
Actual Quantity		TEC, 1997.		,			
Material Moistu		Average fuel moisture					
Control Efficier	ncy	Table 3-16, Fugitive E	missions From (	Coal-Fired Pow	er Plants, EPRI, Ju	ine 1984.	
					•		
		NOTES AND	ORSERVATIO	าพร			
Actual PM <sub>10</sub> en	nissions based on 2,648	3,044 tpy of fuel used. A	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 deli	very was assumed to be	e equally divided among	the barge clam	shell, barge con	tinuous, and rail u	ınloading	
systems, or 8	382,681 tons per system	- <del>-</del>					
	oz,oor tone per eyeten	·•					
		DATA	CONTROL				
Data Collect	ed by:	A. Trbovich			Date:	05/23/97	
Evaluated by	y:	A. Trbovich			Date:	05/23/97	
Data Entere	d by:	A. Trbovich			Date:	05/23/97	
Reviewed by					Date:		

Tampa Electric Company - F.J. Gannon Station

FH-016

EMISSION SOURCE TYPE

1 - FUGITIVE EMIS	SION SOURC	EO	Figure:	
FACILITY AND SC	OURCE DESC	RIPTION		
Fuel Handling - Conve	yor D1 to Conve	yor M1		
Enclosure With Dust Su	ppressant Spray	/\$		
FH016			D(s):	
EMISSION ESTIN	IATION EQU	<u>ATIONS</u>		
f (tpy) x [(average wind speed	d (mph)/5) <sup>1.3</sup> / moi	sture content (pct)/	/2) <sup>1.4</sup> ] x (100—control	ntrol[pct]/100) [pct]/100) x (1/2,000)
nanding and Storage i i	165, Al -42, I lik	ii Luiuon, vanua	ну 1995.	_
IDIRIDEN VATANEAN IN SEMI	ICCIONIC CAI	CUI ATIONS		
ROI DATA AND EM	Material	COLATIONS:		
tual	Moisture	Control	Actual	PM <sub>10</sub>
ransferred	Content	Efficiency	, Emissio	n Rates
(ton/yr)	(pct)	(pct)	(lb/hr)	(tpy)
1,324,022	6.5	90.0	0.10	0.03
SOURCES C	OF INPUT DA	TA		
1		ata Source		
Tampa, FL, Climate of	the States. Third	l Edition, 1985.		
TEC, 1997.				<del></del>
Average fuel moisture	content; TEC, 19	994.		
			and Dispersion M	odeling for
rugitive Particulate Sol	urces, DARG, So	eptember 1961.	-	
NOTES AND	OBSERVATION NECESTATION NECEST	DNS		
8,044 tpy of fuel used. A	Actual fuel use is	the average of	the 1995 and 1996	5 actual fuel
3 tons, respectively.				
e equally divided betwee	en conveyors D1	and D2, or 1,32	24,022 tons per co	nveyor.
				_
		<u></u>	-	
DATA	CONTROL			
A. Trbovich			Date:	05/23/97
A. Trbovich				05/23/97
A. Trbovich				05/23/97
			Date:	
	FACILITY AND SC  Fuel Handling — Converting the Converting of the Part of the Converting of the Conver	FACILITY AND SOURCE DESC  Fuel Handling — Conveyor D1 to Conve :Enclosure With Dust Suppressant Spray  FH—016  EMISSION ESTIMATION EQU.  ed (ton/lvr) x [(average wind speed (mph)/5) 1.3 / moi d (tpy) x [(average wind speed (mph)/5) 1.3 / moi Handling and Storage Piles, AP—42, Fift  Material Moisture Gransferred Content (ton/yr) (pct)  1,324,022 6.5  SOURCES OF INPUT DA  Tampa, FL, Climate of the States, Third TEC, 1997.  Average fuel moisture content; TEC, 19 Table 3.2.17—2, Workbook on Estimati Fugitive Particulate Sources, UARG, So  NOTES AND OBSERVATIO  8,044 tpy of fuel used. Actual fuel use is 3 tons, respectively.  e equally divided between conveyors D1  DATA CONTROL  A. Trbovich  A. Trbovich	EMISSION ESTIMATION EQUATIONS  ed (ton/lw) x [(average wind speed (mph)/5) <sup>1.3</sup> / moisture content (pt)/ d (tpy) x [(average wind speed (mph)/5) <sup>1.3</sup> / moisture content (pt)/ Handling and Storage Piles, AP-42, Fifth Edition, Janual  IPUT DATA AND EMISSIONS CALCULATIONS  Material Moisture Control  Transferred Content Efficiency (pct) (pct)  1,324,022 6.5 90.0  SOURCES OF INPUT DATA Data Source  Tampa, FL, Climate of the States, Third Edition, 1985.  TEC, 1997.  Average fuel moisture content; TEC, 1994.  Table 3.2.17-2, Workbook on Estimation of Emissions Fugitive Particulate Sources, UARG, September 1981.  NOTES AND OBSERVATIONS  8,044 tpy of fuel used. Actual fuel use is the average of 3 tons, respectively.  e equally divided between conveyors D1 and D2, or 1,32  DATA CONTROL  A. Trbovich  A. Trbovich  A. Trbovich	FACILITY AND SOURCE DESCRIPTION  Fuel Handling — Conveyor D1 to Conveyor M1 :Enclosure With Dust Suppressant Sprays  FH—016

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MATE	RIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:			
FACILITY AND SOURCE DESCRIPTION								
Emission Source D	Description:	Fuel Handling — Convey	or D2 to Conve	yor M2				
Emission Control	Method(s)/ID No.(s):	Enclosure With Dust Su	ppressant Spray	<b>18</b>				
Emission Point ID:		FH-017		Transfer Point I	D(s):			
		EMISSION ESTIM	IATION EQU	<u>ATIONS</u>				
Emission (lb/hr) = 0.0	011 x material transferre	d (ton/hr) x [(average wind s	peed (mph)/5) <sup>1.3</sup> /	moisture content (	pct)/2) <sup>1.4</sup> ] x (100-cor	ntrol[pct]/100)		
Emission (tpy) = 0.00	11 x material transferred	(tpy) x [(average wind speed	1 (mph)/5) <sup>1.3</sup> / moi	sture content (pct)/	2) <sup>1.4</sup> ] x (100—control	[pct]/100) x (1/2,000)		
Source: Section 1	3.2.4 – Aggregate H	landling and Storage Pil	es, AP-42, Fiftl	h Edition, Janua	ry 1995.			
					<u> </u>			
	INI	PUT DATA AND EMI	SSIONS CAL	CULATIONS				
			Material		<u></u>			
Mean Wind	Act	·	Moisture	Control	Actual			
Speed	Quantity T		Content	Efficiency	Emissio			
(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								
Para	meter		<u> </u>	ata Source				
Mean Wind Speed		Tampa, FL, Climate of t	the States, Third	Edition, 1985.				
Actual Quantity Tra	ansferred	TEC, 1997.	···.		<del> </del>			
Material Moisture (	Content	Average fuel moisture of						
Control Efficiency		Table 3.2.17-2, Workb Fugitive Particulate Sou			and Dispersion M	odeling of		
		1 ugitive   articulate col	ices, onia, oe	ptember 1301.				
		NOTES AND	OBSERVATIO	ONS				
Actual PM <sub>10</sub> emiss	ions based on 2,648	,044 tpy of fuel used. A	ctual 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	y was assumed to be	equally divided betwee	n conveyors D1	and D2, or 1,32	4,022 tons per co	nveyor.		
			<u> </u>		•			
-								
						·		
		DATA (	CONTROL					
Data Collected	by:	A. Trbovich			Date:	05/23/97		
Evaluated by:		A. Trbovich			Date:	05/23/97		
Data Entered b	y:	A. Trbovich			Date:	05/23/97		
Reviewed by:	·				Date:			

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

FH-018

MA	TERIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:		
		FACILITY AND SO	URCE DESC	RIPTION			
Emission Source	e Description:	Fuel Handling - Conve	yor M1 to Conve	yor E1			
Emission Contr	ol Method(s)/ID No.(s):	Enclosure With Dust Su	ppressant Spray	's			
<b>Emission Point</b>	ID:	FH-018		Transfer Point II	D(s):		
		EMISSION ESTIN	IATION EQU	ATIONS			
Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5) <sup>1.3</sup> / moisture content (pct)/2) <sup>1.4</sup> ] x (100-control[pct]/100)  Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5) <sup>1.3</sup> / moisture content (pct)/2) <sup>1.4</sup> ] x (100-control[pct]/100) x (1/2,000)							
Source: Sectio	n 13.2.4 – Aggregate F	landling and Storage Pi	les, AP-42, Fiftl	h Edition, Janua	ry 1995.		
·							
	IN	PUT DATA AND EM	ISSIONS CAL	CULATIONS			
			Material				
Mean Wind	Act		Moisture	Control	Actual		
Speed	Quantity T		Content	Efficiency	Emissio		
(mph)	<u>(ton/hr)</u>	(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 DA			_	
<u>Pa</u>	rameter		D	ata Source			
M ME - 1 O		T 51 Oli46		Edition 4005			
Mean Wind Spe Actual Quantity		Tampa, FL, Climate of TEC, 1997.	ine States, Third	1 Edition, 1965.		_	
Material Moistu		Average fuel moisture	content; TEC, 19	94.			
Control Efficien		Table 3.2.17-2, Workb			and Dispersion M	odeling of	
		Fugitive Particulate So	urces, UARG, Se	eptember 1981.			
		NOTES AND	ORSERVATIO	ONS			
Actual PM <sub>10</sub> em	issions based on 2,648	6,044 tpy of fuel used. A	ctual fuel use is	the average of	the 1995 and 1996	actual fuel	
	334 tons and 2,767,753	•					
Actual fuel deliv	very was assumed to be	e equally divided between	en conveyors M1	and M2, or 1,32	24,022 tons per co	nveyor.	
				_			
		DATA	CONTROL				
Data Collecte	ed by:	A. Trbovich			Date:	05/23/97	
Evaluated by	<i>'</i> :	A. Trbovich		!	Date:	05/23/97	
Data Entered	l by:	A. Trbovich		!	Date:	05/23/97	

Date:

Reviewed by:

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MATERIAL TRANSFER - FUGITIVE EMISSION SOURCES					Figure:	
		FACILITY AND SO	OURCE DESC	RIPTION		
Emission Sourc	e Description:	Fuel Handling - Conve	yor M2 to Conve	yor E2		
Emission Contro	ol Method(s)/ID No.(s):	Enclosure With Dust Su	ppressant Spray	/s		
Emission Point	ID:	FH-019		Transfer Point I	D(s):	
		EMISSION ESTIN	IATION EQU	ATIONS		
Emission (lb/hr) =	0.0011 x material transferre	ed (ton/hr) x [(average wind s	peed (mph)/5) <sup>1.3</sup>	moisture content (	oct)/2) <sup>1.4</sup> I x (100-con	trol[pct]/100)
Emission (tpy) = 0	.0011 x material transferred	(tpy) x [(average wind speed	d (mph)/5) <sup>1.3</sup> / mo	isture content (pct)/	2) <sup>1.4</sup> ] x (100-control[	oct]/100) x (1/2,000)
Source: Section	n 19 2 4 — Aggregato l	Handling and Storage Pi	los AD-42 Fift	h Edition Janua	ny 1995	
Oddice. Section	ii 10.2.4 — Aggregate i	anding and otorage in	165, Al -42, Till	ii Edidoii, Janua	19 1990.	
			10010110101			
	IN	PUT DATA AND EM	ISSIUNS CAL Material	CULATIONS		
Mean Wind	Act	tual	Moisture	Control	Actual	PM <sub>10</sub>
Speed		ransferred	Content	Efficiency	Emission	
(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 DA			
<u>Pa</u>	<u>rameter</u>			ata Source		
Mean Wind Spe	ed	Tampa, FL, Climate of	the States, Third	d Edition, 1985.		
<b>Actual Quantity</b>		TEC, 1997.				
Material Moistur		Average fuel moisture			<del> </del>	
Control Efficiend	су	Table 3.2.17-2, Workb			and Dispersion Mo	deling of
		Tugiave Faracaiate co	uices, onna, o	eptember 1301.		
		NOTES AND	OBSERVATION	ONS		
Actual PM <sub>10</sub> em	issions based on 2.648	3,044 tpy of fuel used. A			the 1995 and 1996	actual fuel
	334 tons and 2,767,753				· .	
		· · · ·			24.000.4	
Actual fuel deliv	very was assumed to be	e equally divided betwee	en conveyors M	and M2, or 1,3	24,022 tons per cor	iveyor.
		<u>.</u>				
		DATA	CONTROL			
Data Collecte	ed by:	A. Trbovich			Date: 0	5/23/97
Evaluated by	<b>:</b>	A. Trbovich			Date: 0	5/23/97
Data Entered	l by:	A. Trbovich			Date: 0	5/23/97
Reviewed by	<del>-</del>				Date:	

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MATI	ERIAL TRANSFER	R - FUGITIVE EMISS	SION SOURC	ES	Figure:			
		FACILITY AND SO	URCE DESC	RIPTION				
Emission Source	Description:	Fuel Handling - Convey	yor E1 to Storag	je Pile				
Emission Control Method(s)/ID No.(s):Dust Suppressant								
Emission Point ID	);	FH-020		Transfer Point I	D(s):			
		EMISSION ESTIM	IATION EQU	ATIONS				
Emission (lh/hr) = 0	0011 v motorial transferre	ed (ton/hr) x [(average wind s				-t-alfaet(#00)		
		(tpy) x [(average wind speed						
Source: Section	13.2.4 – Aggregate H	Handling and Storage Pil	les, AP-42, Fift	h Edition, Janua	ry 1995.			
	INI	PUT DATA AND EMI		CULATIONS				
Mean Wind	Act	land	Material Moisture	Control	Actual	PM.		
Speed	Quantity To		Content	Efficiency	Actual PM <sub>10</sub> 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								
Para	ameter			Data Source				
Mass Wind Speed		Towns El Climata of	the States This	d Edition 100E				
Mean Wind Speed Actual Quantity T		Tampa, FL, Climate of 1 TEC, 1997.	me States, Inire	1 Edition, 1965.				
Material Moisture		Average fuel moisture of	content; TEC, 19	994.				
Control Efficiency	<i>'</i>	Table 3.2.17-2, Workb			and Dispersion M	odeling of		
		Fugitive Particulate Sou	urces, UARG, Se	eptember 1981.				
			٠.					
		NOTES AND	OBSERVATIO	DNS				
Actual PM <sub>10</sub> emis	sions based on 2,648	3,044 tpy of fuel used. A	ctual fuel use is	s the average of	the 1995 and 1996	actual fuel		
used, 2,528,33	34 tons and 2,767,753	tons, respectively.						
Actual fuel delive	n was assumed to be	e equally divided betwee	on convoyors E1	and E2 or 1 32		nyayar		
Actual luci delive	ly was assumed to be	equally divided between	- Conveyors Er	@IG L2, 01 1,32	4,022 tons per con	iveyor.		
						·		
		DATA	CONTROL					
Data Collected	d by:	A. Trbovich			Date:	05/23/97		
Evaluated by:		A. Trbovich		!	Date:	05/23/97		
Data Entered I	by:	A. Trbovich			Date:	05/23/97		
Reviewed by:				İ	Date:			

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MAT	ERIAL TRANSFER	R - FUGITIVE EMISS	SION SOURC	ES	Figure:	
		FACILITY AND SO	URCE DESC	RIPTION		
Emission Source	Description:	Fuel Handling - Convey	or E2 to Storag	je Pile	·	
Emission Control	l Method(s)/ID No.(s):	Dust Suppressant				
Emission Point II	 D:	FH-021		Transfer Point I	D(s):	
		EMISSION ESTIM	ATION EQU			
Emission (lb (lw) — 0	0011 v material transferse	ed (ton/hr) x [(average wind s	need (comb) (5)1.3	l maishus santant (		etralia eti (100)
Emission (tpy) = $0.0$	2011 x material transferred	(tpy) x [(average wind speed	l (mph)/5) <sup>1,3</sup> / mo	isture content (pct)/	2) <sup>1.4</sup> ] x (100–control	[pct]/100) x (1/2,000)
Carrage Carrier	40.04	tooding and Okassas Dil	AD 40 EH	h []	100F	
Source: Section	13.2.4 – Aggregate i	landling and Storage Pil	es, AP-42, FIII	n Edition, Janua	ry 1995.	
	<u> IN</u>	PUT DATA AND EMI	SSIONS CAL Material	CULATIONS		
Mean Wind	Act	tual	Moisture	Control	Actual	PM <sub>10</sub>
Speed	Quantity T	1	Content	Efficiency	Emissio	
(mph)	(ton/hr)	(ton/yr)	(pct)	(pct)	<u>(lb/hr)</u>	(tpy)
8.6	2,300	1,324,022	6.5	90.0	0.10	0.03
		SOURCES C	,,.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Par	ameter		L	ata Source		
Mean Wind Spee	d	Tampa, FL, Climate of t	he States, Third	d Edition, 1985.		
Actual Quantity T		TEC, 1997.				
Material Moisture Control Efficiency		Average fuel moisture of Table 3.2.17-2, Workb			and Dispersion M	odeling of
		Fugitive Particulate Sou				
		NOTES AND	OBSERVATIO	ONS		
Actual PM <sub>10</sub> emis	ssions based on 2,648	3,044 tpy of fuel used. A	ctual fuel use is	s the average of	the 1995 and 1996	actual fuel
used, 2,528,33	34 tons and 2,767,753	tons, respectively.				
Actual fuel delive	ary was assumed to be	e equally divided betwee	n conveyors F1	and F2 or 1 32	A 022 tons per cor	
Actual fuel delive	was assumed to be	e equally divided betwee	- Conveyors Er	and Lz, or 1,02	4,022 tons per con	iveyor.
	·					
		DATA (	CONTROL			
Data Collecte	d 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:	

FH-022

Tampa Electric Company - F.J. Gannon Station

EMISSION SOURCE TYPE

STORAGE I	PILE WINDE		/E DUST EMISS			Figure:	
		FACILIT	Y AND SOURCE	DESCRIPTION			
imission Source Description:	•	Fuel Storage — Nor	th Storage Pile				
Emission Control Method(s)/ID	No.(s):	Application of Chem	nicai Dust Suppressa	nt .			
mission Point ID:		FH-022		Tr	ansfer Point ID(	s):	
		EMISSI	ON ESTIMATIO	N EQUATIONS			
· · · · · · · · · · · · · · · · · · ·			11- 4D 40 D-11	40.05 (	4 E t		
Estimates of fugitive PM <sub>10</sub> were	made using p	rocedures contained	1 in AP-42, Section	13.2.5, Industrial Win	KI Erosiori.		
Source: Section 13.2.5 - Indu	strial Wind Ero	sion, AP-42, Fifth E	dition, January 1995			_	
		INPIIT OATA	AND FMISSIO	VS CALCULATIO	)NS		
Threshold Friction Velocity:	1.12		Control Efficiency:	90 pc			·····
Pile Length (m):	215	Pile Width (m):	70	Pile Height (m):	21	Surface Area (m <sup>2</sup> )	16,75
\$4-4- and a =11	Fatation	F-sission	Affected Pile	Affected	Anton		
Meteorological Period	Friction Velocity	Emission Potential	Surface Area	Area		ul PM <sub>10</sub> on Rates	
	(m/s)	(g/m²)	(pct)	(m <sup>2</sup> )	(lb/hr)	(фу)	
	<del></del>						
14	1.30	6.38	4	670.3	0.12	0.0005	
30	1,13	0.26 7.81	4	670.3 670.3	<0.01 0.14	<0.0001 0.0003	
65	1.48	16,52	14	2,346.1	1.07	0.003	
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 Pe	er Pariod	1.88	N/A	
			Maxillotti	Total	N/A	0.0050	
•							
		SO	DURCES OF INF				
Parameter				Data So	urce		-
Threshold Friction Velocity (m/s	. ·	Uncrusted coal pik	Table 13 2 5-2 A	P-42, January 1995	;		
Control Efficiency (pct)				on and Dispersion M			
		for Fugitive Particu	late Sources, UARG,	September 1991.			
Fuel Pile Dimensions (m)		Estimated: ECT, 19		_			
Pile Surface Area (m²)	<del> </del>	Calculated: ECT, 1					•
Meteorological Periods Friction Velocity (m/s)			ocessed per AP-42, 13.2.5, AP-42, Janu			<del></del>	<u> </u>
otential Emission (g/m²)			13.2.5, AP-42, Janu 13.2.5, AP-42, Janu				
Affected Pile Surface Area (pct)			ection 13.2.5, AP-4				
Affected Area		Calculated: ECT, 1					
						,	
		NO	TES AND OBSE	HVALIONS			_
				•			
<del></del>						<u></u>	
			. DATA CONT	ROL			
Data Collected by:		A. Trbovich		-		Date: (	01/20/97
Evaluated by:		A. Trbovich					01/20/97
Data Entered by:		A. Trbovich					01/20/97
		A. HUUVICH					. ((40)31
Reviewed by:						Date:	

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: Transfer Point ID(s): FH-023a EMISSION ESTIMATION EQUATIONS Estimates of fugitive PM10 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 Control Efficiency: Threshold Friction Velocity: 1.12 m/s 90 pct Pile Length (m): 170 Pile Width (m): 91 Pile Height (m): 21 Surface Area (m<sup>2</sup>) 16,754 Actual PM<sub>10</sub> **Meteorological** Friction **Emission** Affected Pile Affected Potential Surface Area **Emission Rates** Period Velocity Area <u>(m²</u>) (g/m²) (m/s) (pct) (lb/hr) 6.38 670.2 0.12 1.30 0.0005 30 1.13 0.26 4 670.2 <0.01 <0.0001 7.81 37 1 33 670.2 0.14 0.0003 4 2,345.5 65 1.48 16.52 14 1.07 0.0021 0.0016 43.82 670.2 0.81 65 1.80 4 77 1.30 6.38 4 670.2 0.12 0.0002 90 1.33 7.81 670.2 0.14 0.0003 N/A Maximum Per Period 1.88 N/A 0.0050 Total SOURCES OF INPUT DATA Data Source Parameter 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. Calculated: ECT, 1997. Pile Surface Area (m²) 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/m²) 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 01/20/97 Data Collected by: Date: A. Trbovich Date: Evaluated by: A. Trbovich 01/20/97 01/20/97 Data Entered by: A. Trbovich Date: Reviewed by: Date:

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

FH-023b

OTODACE E	W. F. WALDS		EMISSION SOU		6	F	
STORAGE	ILE WINDE		VE DUST EMISS			Figure:	
Emission Source Description:					<b>4.0</b>		
·		<del>-</del>	st Portion of South S				
Emission Control Method(s)/ID	No.(s):	Application of Che	mical Dust Suppress	ent	_		
Emission Point ID:		FH-023b	_		Transfer Point ID(	s):	
		<u>EM</u> IS:	SION ESTIMATION	ON EQUATION	S		
Estimates of fugitive PM <sub>10</sub> were	made using p	rocedures contains	ed in AP-42, Section	13.2.5, Industrial	Wind Erosion.		
Source: Section 13.2.5 - Indus	trial Wind Fro	sion AP-42 Fifth	Edition January 100	5			
· · · · · · · · · · · · · · · · · · ·	<u> </u>		A AND EMISSIO				
Threshold Friction Velocity:	1.12 140	T	Control Efficiency: 125		pct	Surface Area (m <sup>2</sup> )	18,855
Pile Length (m):	140	Pile Width (m):	125	Pile Height (m):		Sunace Area (m )	16,633
Meteorological	Friction	Emission	Affected Pile	Affected	Actus	al PM <sub>10</sub>	
Period	Velocity	Potential	Surface Area	Area		on Rates	
	(m/s)	(a/m²)	(pct)	(m <sup>2</sup> )	(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 65	1.48	16.52 43.82	14	2,639.6 754.2	1.20 0.91	0.0024 0.0018	
77	1.30	6.38	4	754.2	0.13	0.0018	
90	1.33	7.81	4	754.2	0.16	0.0003	
			Maximum F	er Period	2.11	N/A	
				Total	N/A	0,0054	
			CALIDATES	IDDATED ATTA		<u> </u>	
Parameter		]	SOURCES OF IN		Source		
1 diameter				Dutu	004.00		
Threshold Friction Velocity (m/s	:)	Uncrusted coal pi	le, Table 13.2.5-2.,	AP-42, January 19	995.		
Control Efficiency (pct)		Table 3.2.17-2, V	orkbook on Estimat	ion and Dispersion	Modeling		
		for Fugitive Partic	ulate Sources, UARG	i, September 1991.	·		
Fuel Pile Dimensions (m)		Estimated: ECT, 1					
Pile Surface Area (m²)		Calculated: ECT,					_
Meteorological Periods			rocessed per AP-43				
Friction Velocity (m/s) Potential Emission (g/m²)		<del> '</del>	13.2.5, AP-42, Jane 13.2.5, AP-42, Jane				_
Affected Pile Surface Area (pct)			13.2.5, AP-42, Jan Section 13.2.5, AP-4				
Affected Area		Calculated: ECT,		,			
					_		
		N	OTES AND OBS	ERVATIONS			
					<del></del>		
					<u> </u>		000000000000000000000000000000000000000
			DATA CON	TROL			
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:	·
_							

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MA	TERIAL TRANSFER	- FUGITIVE EMIS	SION SOURC	ES	Figure:			
		FACILITY AND SO	URCE DESC	RIPTION				
Emission Source Description: Fuel Handling – Underground Reclaim System to Conveyor F1								
Emission Control Method(s)/ID No.(s):Enclosure With Dust Suppressant								
Emission Point I	D:	FH-024		Transfer Point I	D(s):			
		EMISSION ESTIN	ATION EQU		- (-).			
		d (torviw) x [(average wind s				4-17-414-00		
Emission (lb/hr) = 0.	0.0011 x material transferred	d (torvin) x [(average wind s (tpy) x [(average wind spee	<del>peed (mph)/5)*** /</del> d (mph)/5) <sup>1.3</sup> / moi	moisture content ( sture content (pct)/	2) <sup>1.4</sup> ] x (100—control	ntroi[pet]/100) [pet]/100) x (1/2,000)		
Source: Section	1 13.2.4 – Aggregate F	landling and Storage Pi	les, AP-42, Fitt	h Edition, Janua	ry 1995.			
	<u>INI</u>	PUT DATA AND EM	ISSIONS CAL Material	CULATIONS				
Mean Wind	Act	ual	Moisture	Control	Actual			
Speed	Quantity T		Content	Efficiency	Emission R			
(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 DA					
Pai	Parameter Data Source							
Mean Wind Spec	ed	Tampa, FL, Climate of	the States, Third	d Edition, 1985.				
Actual Quantity		TEC, 1997.		204		•		
Material Moistur Control Efficience		Average fuel moisture of Table 3.2.17-2, Workb			and Dispersion M	odeling of		
		Fugitive Particulate So						
	·							
		NOTES AND	OBSERVATIO	DNS				
Actual PM <sub>10</sub> em	issions based on 2,648	,044 tpy of fuel used. A	Actual fuel use is	the average of	the 1995 and 1996	actual fuel		
used, 2,528,3	34 tons and 2,767,753	tons, respectively.						
Actual fuel recla	iming was assumed to	be equally divided amo	ng the reclaime	rs F1, F2, and F	4, or 882,681 tons	per reclaimer.		
		reclaimers F1, F2, and			<u> </u>	•		
Actual Short—ter	itti eiiiissions based on	reciaillers i i, i z, aiu	t 4 operating sit	munaneously at	oo mii, eacii.			
		DATA	CONTROL					
Data Callast	-d b		CONTROL		Data	DE 109 107		
Data Collecte		A. Trbovich				05/23/97		
Evaluated by	•	A. Trbovich			Date:	05/23/97		
Data Entered	by:	A. Trbovich			Date:	05/23/97		
Reviewed by:	:				Date:			

Tampa Electric Company - F.J. Gannon Station

FH-025

FAILS COMPANY - F.J. Gamion Station

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)<sup>1.3</sup> / moisture content (pct)/2)<sup>1.4</sup>] 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 Material Mean Wind Moisture Control Actual PM<sub>10</sub> Actual **Quantity Transferred** Efficiency **Emission Rates** Speed Content (lb/hr) (mph) (ton/hr) (ton/yr) (pct) (pct) (tpy) 553 6.5 90.0 0.02 0.02 8.6 882,681 SOURCES OF INPUT DATA **Data Source** <u>Parameter</u> 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<sub>10</sub> 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

Date:

Reviewed by:

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MA	TERIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:	·			
		FACILITY AND SO	URCE DESC	RIPTION					
Emission Source	Emission Source Description: Fuel Handling - Underground Reclaim System to Conveyor F2								
Emission Contro	ol Method(s)/ID No.(s):	Enclosure With Dust Su	ppressant						
Emission Point	ID:	FH-027		Transfer Point I	D(s):	,			
		EMISSION ESTIN	IATION EQU	ATIONS_					
Emission (lb/hr) =	0.0011 x material transferre	d (ton/hr) x [(average wind s	peed (mph)/5) <sup>1.3</sup> /	moisture content (	pct)/2) <sup>1.4</sup>   x (100cor	strolipetl/100)			
Emission (tpy) = 0	0.0011 x material transferred	(tpy) x [(average wind speed	d (mph)/5) <sup>1.3</sup> / moi	isture content (pct)/	2) <sup>1.4</sup> ] x (100-control	pet]/100) x (1/2,000)			
Source: Section	n 13 2 4 – Aggregate F	landling and Storage Pi	les AP-42 Fift	h Edition Janua	rv 1995				
	in ro.e Aggregate i	tariaming and otorago in	100,711	Laido <sub>ll</sub> , Gallac					
	IN	PUT DATA AND EMI	ISSIONS CAL	CULATIONS					
	//\	BCS BC ASSAURANT DE CANTO	Material	OODANIONO.					
Mean Wind	Act		Moisture	Control	Actual PM <sub>10</sub>				
Speed (mph)	Quantity T (ton/hr)	ransterred (ton/yr)	Content (pct)	Efficiency (pct)	Emission (lb/hr)	tpy)			
	553	882,681	6.5	90.0	0.02	0.02			
8.6		·			0.02	0.02			
Pa	ırameter	SOURCES C	OF INPUT DA	<i>TA</i> )ata Source					
	trainete.			dia oddioc					
Mean Wind Spe		Tampa, FL, Climate of	the States, Third	d Edition, 1985.					
Actual Quantity Material Moistu		TEC, 1997.  Average fuel moisture of	contont: TEC 10	004	<u>, , , , , , , , , , , , , , , , , , , </u>				
Control Efficien		Table 3.2.17-2, Workb			and Dispersion Me	odeling of			
		Fugitive Particulate Sources, UARG, September 1981.							
		NOTES AND	OBSERVATIO	DNS					
Actual PM <sub>10</sub> em	nissions based on 2,648	,044 tpy of fuel used. A	ctual 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 recla	aiming was assumed to	be equally divided amo	ng the reclaime	rs F1, F2, and F	4, or <u>8</u> 82,681 tons	per reclaimer.			
Actual short-te	erm emissions based on	reclaimers F1, F2, and	F4 operating si	multaneously at	533 tph, each.				
	-								
		DATA (	CONTROL						
Data Collecte	ed by:	A. Trbovich			Date: (	05/23/97			
Evaluated by	<b>/:</b>	A. Trbovich			Date: (	05/23/97			
Data Entered		A. Trbovich		_	Date: (	05/23/97			
Reviewed by					Date:				

Tampa Electric Company - F.J. Gannon Station

EMISSION SOURCE TYPE

MA <sup>.</sup>	TERIAL TRANSFER		Figure:			
		FACILITY AND SC	URCE DESC	RIPTION		
Emission Source	e Description:	Fuel Handling - Conve	yor F1 to Conve	yor G1/G2		
Emission Contro	ol Method(s)/ID No.(s):	Enclosure With Dust Su	ppressant Spray	/s		
Emission Point	ID:	FH-028		Transfer Point I	D(s):	
		EMISSION ESTIN	IATION EQU	ATIONS		
Emission (tpy) = 0	.0011 x material transferred	ed (ton/hr) x ((average wind a l (tpy) x ((average wind spee Handling and Storage Pi	d (mph)/5) <sup>1.3</sup> / mo	isture content (pct)/	2) <sup>1.4</sup> ] x (100—control	ntrol[pct]/100) [pct]/100) x (1/2,000
	IN	PUT DATA AND EM		CULATIONS		
Mean Wind	Act	tual	Material Moisture	Control	Actual	PM <sub>40</sub>
Speed		ransferred	Content	Efficiency	Actual PM <sub>10</sub> 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 DA	TA		
Pa	rameter			Data Source		
Mean Wind Spe	ed	Tampa, FL, Climate of	the States Thir	d Edition 1985		
Actual Quantity		TEC, 1997.	are cuated, thin			
Material Moistur		Average fuel moisture				
Control Efficiend	су	Table 3.2.17-2, Workb Fugitive Particulate So			and Dispersion M	odeling of
		rugilive Faruculate 30	urces, OANG, S	eptember 1901.	•	
		NOTES AND	OBSERVATIO	ONS		
Actual PM <sub>10</sub> em	issions based on 2,648	3,044 tpy of fuel used. A	ctual fuel use is	s the average of	the 1995 and 1990	5 actual fuel
used, 2,528,3	334 tons and 2,767,753	tons, respectively.			· ·	
Actual fuel recla	aiming was assumed to	be equally divided amo	ng the reclaime	ers F1, F2, and F	4, or 882,681 tons	per reclaimer.
Actual short—te	rm emissions based or	n reclaimers F1, F2, and	F4 operating si	multaneously at	533 tph, each.	
				,		
		DATA	CONTROL			
Data Collecte	ed by:	A. Trbovich			Date:	05/23/97
Evaluated by	<u>:</u>	A. Trbovich			Date:	05/23/97
Data Entered	by:	A. Trbovich			Date:	05/23/97
Reviewed by	:				Date:	

<u> Tampa Electric Company – F.J. Gannon Station</u>

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 (tor/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 Material Actual PM<sub>10</sub> Mean Wind Actual Moisture Control **Emission Rates Quantity Transferred** Content **Efficiency** Speed (mph) (ton/yr) (pct) (pct) (lb/hr) 553 882,681 90.0 0.02 0.02 SOURCES OF INPUT DATA <u>Parameter</u> **Data Source** Tampa, FL, Climate of the States, Third Edition, 1985. Mean Wind Speed Actual Quantity Transferred TEC, 1997. Average fuel moisture content; TEC, 1994. Material Moisture Content 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

Date:

Reviewed by:

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MA	MATERIAL TRANSFER - FUGITIVE EMISSION SOURCES					
		FACILITY AND SO	URCE DESC	RIPTION		
Emission Source	e Description:	Fuel Handling - Convey	yor F2 to Conve	yor G1/G2	<u></u>	
Emission Contro	ol Method(s)/ID No.(s):	Enclosure With Dust Su	ppressant Spray	/s		
Emission Point I	ID:	FH-031		Transfer Point I	D(s):	
		EMISSION ESTIM	ATION EQU	ATIONS		
Emission (lb/hr) = 1	0 0011 v material transferre	ed (ton/hr) x [(average wind s	need (mph)/5)1.3	/ moisture content (	nct)/2)1.41 x (100-cov	trol[act]/100)
		(tpy) x [(average wind speed				
Source: Section	n 19 2 4 Aggregate l	Jandling and Staroga Di	los AD 42 Fift	h Edition Janua		
Source: Section	n 13.2.4 – Aggregate r	Handling and Storage Pil	ies, AF-42, Fild	n Ediuon, Janua	ly 1995.	
					·	
		PUT DATA AND EMI	ISSIONS CAL Material	CULATIONS		
Mean Wind	Act	tual	Moisture	Control	Actual	PM <sub>10</sub>
Speed	Quantity T	ransferred	Content	Efficiency	Emissio	n 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 DA			
	rameter			Data Source		
Mean Wind Spe		Tampa, FL, Climate of t	the States, Third	<u>1 Edition, 1985.</u>		
Actual Quantity  Material Moistur		TEC, 1997.  Average fuel moisture of	content: TEC 19	994	-	
Control Efficience		Table 3.2.17-2, Workb			and Dispersion M	odeling of
	<u> </u>	Fugitive Particulate Sou			<u> </u>	
				•		
		NOTES AND	OBSERVĀTIC	DNS		
Actual PM <sub>10</sub> em	issions based on 2,648	3,044 tpy of fuel used. A	ctual fuel used	is the average o	f the 1995 and 199	16 actual fuel
used, 2,528,3	34 tons and 2,767,753	tons, respectively.				
Actual fuel recla	niming was assumed to	be equally divided amo	ng relcaimers F	1, F2, and F4, o	882,681 tons per	reclaimer.
Actual short-te	rm emissions based or	n reclaimers F1, F2, and	F4 operating si	multaneously at	533 tph, each.	
		,				
		DATA	CONTROL			
Data Collecte	ed 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:	<u> </u>				Date:	

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MA	TERIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:		
		FACILITY AND SO	URCE DESC	RIPTION			
Emission Source	e Description:	Fuel Handling Convey	or G1 to Hamm	ermill Crusher 1			
Emission Contro	ol Method(s)/ID No.(s):	Enclosure With Dust Su	pressant				
Emission Point ID:		FH-032		Transfer Point I	D(s):		
		EMISSION ESTIM	IATION EQU	ATIONS			
Emission (tpy) = 0.	.0011 x material transferred	ed (ton/hr) x [(average wind s (tpy) x [(average wind speed dandling and Storage Pil	i (mph)/5) <sup>1.3</sup> / moi	sture content (pct)/	2) <sup>1.4</sup> ] x (100—control	strol[pct]/100) [pct]/100) x (1/2,000)	
		PUT DATA AND EMI	CCIONC CAI	CULATIONS			
	INI	OI DATA AND EMI	Material	COLATIONS	<u></u>		
Mean Wind	Act	ual	Moisture	Control	Actual PM <sub>10</sub>		
Speed	Quantity T		Content	Efficiency	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 C	F INPUT DA				
Pai	<u>rameter</u>		D	ata Source			
Mean Wind Spe	ed	Tampa, FL, Climate of t	the States, Third	d Edition, 1985.			
Actual Quantity		TEC, 1997.	-				
Material Moistur		Average fuel moisture of					
Control Efficiend	ey	Table 3.2.17-2, Workb Fugitive Particulate Sou			and Dispersion M	odeling of	
		NOTES AND	OBSERVATIO	ONS			
Actual PM <sub>10</sub> emi	issions based on 2,648	3,044 tpy of fuel used. A	ctual fuel use is	the average of	the 1995 and 1996	actual fuel	
	334 tons and 2,767,753						
				04 100 4			
Actual fuel recla	iming was assumed to	be equally divided betw	een conveyors	G1 and G2, or 1	,324,022 tons per	conveyor.	
		_					
		DATA (	CONTROL				
Data Collecte	ed by:	A. Trbovich			Date:	05/23/97	
Evaluated by		A. Trbovich			Date:	05/23/97	
Data Entered		A. Trbovich			Date:	05/23/97	
Reviewed by:					Date:		

FH-033

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MAT	TERIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:	
		FACILITY AND SO	URCE DESC	RIPTION		
Emission Source	e Description:	Fuel Handling - Convey	yor G2 to Hamm	ermill Crusher 2		
Emission Contro	ol Method(s)/ID No.(s):	Enclosure With Dust Su	ppressant			
Emission Point I	ID:	FH-033		Transfer Point II	D(s):	
		EMISSION ESTIN	IATION EQU	ATIONS		
Emission (lb/hr) =	0.0011 x material transferre	ed (ton/hr) x [(average wind s	peed (mph)/5) <sup>1.3</sup> /	moisture content (	pct)/2) <sup>1.4</sup> ] x (100-co	ntrol[pct]/100)
Emission (tpy) = 0.	.0011 x material transferred	(tpy) x [(average wind speed	d (mph)/5) <sup>1.3</sup> / moi	sture content (pct)/	2) <sup>1.4</sup> ] x (100-control	[pct]/100) x (1/2,000)
Source: Section	n 19 2 4 — Aggregate k		les AP-42 Fifti	h Edition Januar	 nv 1995	
Source. Secuoi	1 10.2.4 - Aggregate I	andming and otorage in	105, Ar — 42, 1 III	i Luiuon, vanda	y 1993.	
	IN	PUT DATA AND EMI	ISSIONS CAL Material	CULATIONS		
Mean Wind	Act	tual	Moisture	Control	Actual PM <sub>10</sub> Emission Rates	
Speed	Quantity T	ransferred	Content	Efficiency		
(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 C	DE INPUT DA			
Pa	rameter		<u>D</u>	ata Source		
Mean Wind Spe	od	Tampa, FL, Climate of t	the States Thire	LEdition 1985		
Actual Quantity		TEC, 1997.	ne States, Timo	<u>Laidon, 1905.</u>		
Material Moistur		Average fuel moisture	content; TEC, 19	94.		
Control Efficience	су	Table 3.2.17-2, Workb Fugitive Particulate So			and Dispersion M	odeling of
				A		
		NOTES AND	OBSERVATIO	ONS		
Actual PM <sub>10</sub> emi	issions based on 2,648	3,044 tpy of fuel used. A	ctual fuel use is	the average of	the 1995 and 1996	actual fuel
used, 2,528,3	334 tons and 2,767,753	tons, respectively.				
Ashad fool sods		والمساورة والمارية		C1 and C2 as 1	224 022 1	
Actual fuel recia	uming was assumed to	be equally divided betw	reen conveyors	GI and G2, or I	,324,022 tons per	conveyor.
		DATA (	CONTROL			
Data Collecte	ed 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:	<u></u>			-	Date:	

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 Transfer Point ID(s): **Emission Point ID:** FH-034 EMISSION ESTIMATION EQUATIONS Emission (lb/hr) = 0.0011 x material transferred (ton/hr) x [(average wind speed (mph)/5)<sup>1.3</sup> / moisture content (pct)/2)<sup>1.4</sup>] x (100-control[pct]/100) Emission (tpy) = 0.0011 x material transferred (tpy) x [(average wind speed (mph)/5)<sup>1.3</sup> / moisture content (pct)/2)<sup>1.4</sup>] 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 Material Actual PM<sub>10</sub> Mean Wind Moisture Control Actual **Emission Rates** Speed **Quantity Transferred** Content Efficiency (mph) (ton/hr) (ton/yr) (pct) (pct) (lb/hr) (tpy) 0.03 8.6 800 1,324,022 6.5 90.0 0.03 SOURCES OF INPUT DATA **Data Source Parameter** 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<sub>10</sub> 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

Date:

Date:

05/23/97

A. Trbovich

Data Entered by:

Reviewed by:

Tampa Electric Company – F.J. Gannon Station

EMISSION SOURCE TYPE

MA	TERIAL TRANSFER	- FUGITIVE EMISS	SION SOURC	ES	Figure:	
		FACILITY AND SO	URCE DESC	RIPTION		
Emission Source Description: Fuel Handling - Hammermill Crusher 2 to Conveyor H2						
Emission Contr	ol Method(s)/ID No.(s):	Enclosure With Dust Su	opressant			
Emission Point	ID:	FH-035		Transfer Point I	D(s):	
		EMISSION ESTIM	IATION EQU	<u>ATIONS</u>		
Emission (lb/hr) =	0.0011 x material transferre	d (ton/hr) x [(average wind s	peed (mph)/5) <sup>1.3</sup> /	moisture content (	pct)/2) <sup>1.4</sup> ] x (100-co	ntrol[pct]/100)
Emission (tpy) = 0	.0011 x material transferred	(tpy) x [(average wind speed	l (mph)/5) <sup>1.3</sup> / moi	sture content (pct)/	2) <sup>1.4</sup> ] x (100-control	[pct]/100) x (1/2,000)
Source: Section	n 13 2 4 — Aggregate I	landling and Storage Pil	os AP-42 Fiftl	h Edition Janua	rv 1995	
Source. Section	II 10.2.4 - Aggregate I	landing and olorage in	es, At —42, Till	n Luition, Janua	19 1330.	
	<u>IN</u>	PUT DATA AND EMI	SSIONS CAL Material	CULATIONS		
Mean Wind	Act	tual	Material Moisture	Control	Actual	PM.a
		ransferred	Content	Efficiency	Actual PM <sub>10</sub> 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 C	F INPUT DA	TA		
Pa	rameter	Data Source				
Mean Wind Spe		Tampa, FL, Climate of	the States, Third	Edition, 1985.		
Actual Quantity		TEC, 1997.	ontont TEC 10			
Material Moistu Control Efficien		Average fuel moisture of Table 3.2.17-2, Workb			and Dispersion M	odeling of
	,	Fugitive Particulate So				
						,
		NOTES AND	OBSERVATIO	DNS		- 2
Actual PM45 em	nissions based on 2.648	3,044 tpy of fuel used. A	ctual fuel used	is the average o	f the 1995 and 19	96 actual fuel
	34 tons and 2,767,753					
		be equally divided betw	4000 000W0V0V0	U1 and U2 as 1	224 022 tone nor	
Actual Idel Tech	ailing was assumed to	be equally divided between	een conveyors	111 and 112, 01 1	,024,022 tons per	Conveyor.
		DATA	CONTROL			
Data Collect	ed by:	A. Trbovich			Date:	05/23/97
Evaluated by	/:	A. Trbovich			Date:	05/23/97
Data Entered	l by:	A. Trbovich			Date:	05/23/97
Reviewed by	<b>,.</b>				Date:	

FH-036-FH-041

Tampa Electric – F.J. Gannon Station

EMISSION SOURCE TYPE

MATERIAL TRANSFER - CONTROLLED EMISSION SOURCES					Figure:	
			OURCE DESCR			
Emission Source Description	:	Fuel Handling -	Conveyors H1/H2	to Conveyors J1/J	2, Conveyors J1/J2	to Bunkers
Emission Control Method(s)/l	ID No.(s):	Rotoclones 1 th	rough 6			
Emission Point ID:		FH -036 throug	h FH-041	Transfer Point ID		
	EN	IISSION ESTI	MATION EQUA	TIONS		
Emission (lb/hr) = Flow Rate (scfm	) x (grain/scf) x (1 lb//	',000 grain) x (60 m	in/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.						_
		DATA AND EN	MISSIONS CALC			
Operating Hours:	24 Hrs/Day	7	Days/Wk	8,760 H	rs/Yr	
		Transfer	Exhaust	Exit Grain	Actual PM <sub>10</sub>	
Transfer Points Cor	ntrolled	Point	Flow Rate	Loading	Emission I	Rates
By Common Contro	l Device	ID No.	(scfm)	(gr/scf)	_(lb/hr)	(tpy)
Jnit 1 Fuel Bunker Loading			9,600	0.0023	0.19	0.8
Jnit 2 Fuel Bunker Loading			9,600	0.0023	0.19	0.8
Unit 3 Fuel Bunker Loading Unit 4 Fuel Bunker Loading			9,600 9,600	0.0023	0.19	0.8
Unit 5 Fuel Bunker Loading			5,400	0.0023	0.19	0.0
Jnit 6 Fuel Bunker Loading			9,600	0.0023	0.19	0.
		COURCES	OF INPUT DATA	Ā		
Parameter		SOUNCES		a Source		
·			Dun	<u>a course</u>		
Operating Hours	TEC, 1997.					
Exhaust Flow Rate	TEC, 1997.	TEC, 1997. Vendor data.				
Exit Grain Loading	TEC, 1997.	Based on FDEF	Permit No. AO29-	-250140.		
***************************************						
	<u> </u>	NOTES AND	OBSERVATION	VS		
All Rotoclones are conservati	vely assumed to b	e operating whe	never any bunkerir	ng occurs.		
			·	_		
				•		
		· <del></del>	·			
		ΠΑΤΔ	CONTROL			
Data Collected by:	A. Trbovic		OUNTIOL	Date:	01/20/97	
				Date:	01/20/97	
	A. Trbovic	13				
Evaluated by: Data Entered by:	A. Trbovic			Date:	01/20/97	_
Evaluated by:				Date:	01/20/97	

#### **BEST AVAILABLE COPY**

EMISSION INVENTORY WORKSHEET

#### FH-04 Tampa Electric Company - F.J. Gannon Station **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 5,824 Hrs/Yr Operating Hours: 16 Hrs/Day 7 Days/Wk Vehicle Miles Actual PM<sub>10</sub> Control Rainfall Days Travelled Efficiency **Emission Rates** Silt Content Vehicle Speed Vehicle Weight No. of Wheels (VMT/hr) (VMT/yr) (pct) (lb/hr) (tpy) (mph) (ton) 58.240 90.0 0.75 2.17 6 107 10.0 2.5 48 8.4 SOURCES OF INPUT DATA **Parameter** Data Source Operating Hours ECT, 1997. Estimated. Table 13.2.2-1, Section 13.2.2, AP-42, January 1995. Bilt Content, s Vehicle Speed, S TEC, 1997. Average value. TEC, 1997. Average value. Vehicle Weight, W No. of Wheels TEC, 1997. Average value. Climate of the States, Third Edition, 1985. Data for Tampa, FL Rainfall Days 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 A. Trbovich Date: 01/20/97 Data Collected by: Evaluated by: A. Trbovich Date: 01/20/97 A. Trbovich Date: 01/20/97 Data Entered by: Date: Reviewed by: