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PERMIT APPLICATION

APPLICATION FOR AIR CONSTRUCTION PERMIT FOR NEW REFINERY VACUUM PAN

United States Sugar Corporation
Clewiston Mill

Prepared For: United States Sugar Corporation
111 Ponce De Leon Ave.
Clewiston, FL 33440

Submitted By: Golder Associates Inc.
6026 NW 1st Place
Gainesville, FL 32607 USA

Distribution: 4 copies – Florida Department of Environmental Protection
2 copies – United States Sugar Corporation
1 copy – Golder Associates Inc.

September 2011

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Golder Associates

APPLICATION FOR AIR PERMIT

LONG FORM

D. REED

Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

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BUREAU OF AIR REGULATION

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit:

- For any required purpose at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air operation permit;
- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment new source review, or maximum achievable control technology (MACT);
- To assume a restriction on the potential emissions of one or more pollutants to escape a requirement such as PSD review, nonattainment new source review, MACT, or Title V; or
- To establish, revise, or renew a plantwide applicability limit (PAL).

Air Operation Permit – Use this form to apply for:

- An initial federally enforceable state air operation permit (FESOP); or
- An initial, revised, or renewal Title V air operation permit.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: **United States Sugar Corporation**	
2. Site Name: **U.S. Sugar Clewiston Facility**	
3. Facility Identification Number: **0510003**	
4. Facility Location... Street Address or Other Locator: **W.C. Owens Ave. and S.R. 832** City: **Clewiston** County: **Hendry** Zip Code: **33440**	
5. Relocatable Facility? ☐ Yes ☒ No	6. Existing Title V Permitted Facility? ☒ Yes ☐ No

Application Contact

1. Application Contact Name: **Keith Tingberg, Environmental Manager, Sugar Manufacturing**
2. Application Contact Mailing Address... Organization/Firm: **United States Sugar Corporation** Street Address: **111 Ponce De Leon Ave.** City: **Clewiston** State: **FL** Zip Code: **33440**
3. Application Contact Telephone Numbers... Telephone: **(863) 902-3186** ext. Fax: **(863) 902-3149**
4. Application Contact E-mail Address: **ktingberg@ussugar.com**

Application Processing Information (DEP Use)

1. Date of Receipt of Application: 9-1-11	3. PSD Number (if applicable):
2. Project Number(s): 0510003 - 051 - AC	4. Siting Number (if applicable):

APPLICATION INFORMATION

Purpose of Application

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

Air Construction Permit

☒ Air construction permit.

☐ Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).

☐ Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

Air Operation Permit

☐ Initial Title V air operation permit.

☐ Title V air operation permit revision.

☐ Title V air operation permit renewal.

☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.

☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

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

☐ Air construction permit and Title V permit revision, incorporating the proposed project.

☐ Air construction permit and Title V permit renewal, incorporating the proposed project.

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

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

Application Comment

This application is being submitted for an air construction permit for the addition of a vacuum pan in the sugar refinery. The project is a minor modification to the sugar refinery and will not result in a PSD significant emissions increase.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Processing Fee
015	VHP Sugar Dryer	AC1F	N/A
016	White Sugar Dryer No. 1	AC1E	N/A
017	Granular Carbon Regenerative Furnace	AC1F	N/A
018	Vacuum Systems	AC1F	N/A
019	Conditioning Silos	AC1F	N/A
020	Sugar/Starch Bins	AC1F	N/A
021	Alcohol Usage	AC1F	N/A
022	Sugar Packaging	AC1F	N/A
029	White Sugar Dryer No. 2	AC1C	N/A

Application Processing Fee

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

APPLICATION INFORMATION

Owner/Authorized Representative Statement

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

1. Owner/Authorized Representative Name :
   Neil Smith, Vice President and General Manager, Sugar Manufacturing
2. Owner/Authorized Representative Mailing Address...
   Organization/Firm: **United States Sugar Corporation**
   Street Address: **111 Ponce De Leon Ave.**
   City: **Clewiston** State: **FL** Zip Code: **33440**
3. Owner/Authorized Representative Telephone Numbers...
   Telephone: **(863) 902-2703** ext. Fax: **(863) 902-2729**
4. Owner/Authorized Representative E-mail Address: **nsmith@ussugar.com**
5. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the corporation, partnership, or other legal entity submitting this air permit application. To the best of my knowledge, the statements made in this application are true, accurate and complete, and any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department.

   Signature

   8/30/11
   Date

APPLICATION INFORMATION

Application Responsible Official Certification

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

1. Application Responsible Official Name:

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

- ☐ For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.
- ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively.
- ☐ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.
- ☐ The designated representative at an Acid Rain source or CAIR source.

3. Application Responsible Official Mailing Address...
Organization/Firm:
Street Address:
City: State: Zip Code:

4. Application Responsible Official Telephone Numbers...
Telephone: ( ) ext. Fax: ( )

5. Application Responsible Official E-mail Address:

6. Application Responsible Official Certification:

I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.

_____ _____

Signature Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: **David A. Buff**
   Registration Number: **19011**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Golder Associates Inc.****
   Street Address: **6026 NW 1st Place**
   City: **Gainesville** State: **FL** Zip Code: **32607**
3. Professional Engineer Telephone Numbers...
   Telephone: **(352) 336-5600** ext. Fax: **(352) 336-6603**
4. Professional Engineer E-mail Address: **dbuff@golder.com**
5. Professional Engineer Statement:

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

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

(3) If the purpose of this application is to obtain a Title V air operation permit (check here ☐, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.

(4) If the purpose of this application is to obtain an air construction permit (check here ☒, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here ☐, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here ☐, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

David A. Buff
Signature

8/31/2011
Date

(seal)

* Attach any exception to certification statement.
**Board of Professional Engineers Certificate of Authorization #00001670.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone **17** East (km) **506.1** North (km) **2956.9**		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) **26 / 44 / 06** Longitude (DD/MM/SS) **80 / 56 / 19**	
3. Governmental Facility Code: **0**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **20**	6. Facility SIC(s): **2061** **2062**
7. Facility Comment :			

Facility Contact

1. Application Contact Name: **Keith Tingberg, Environmental Manager, Sugar Manufacturing**
2. Application Contact Mailing Address... Organization/Firm: **United States Sugar Corporation** Street Address: **111 Ponce De Leon Ave.** City: **Clewiston** State: **FL** Zip Code: **33440**
3. Application Contact Telephone Numbers... Telephone: **(863) 902-3186** ext. Fax: **(863) 902-3149**
4. Application Contact E-mail Address: **ktingberg@ussugar.com**

Facility Primary Responsible Official

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

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

Facility Regulatory Classifications

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

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

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
Ammonia – NH3	B	N
Particulate Matter – PM	A	N
Particulate Matter – PM10	A	N
Particulate Matter – PM2.5	A	N
Sulfur Dioxide – SO2	A	N
Nitrogen Oxides – NOx	A	N
Carbon Monoxide – CO	A	N
Sulfuric Acid Mist – SAM	A	N
Lead – Pb	B	N
Total Hazardous Air Pollutants – HAPS	A	N
Volatile Organic Compounds – VOC	A	N
Hydrogen Sulfide – H2S	A	N
Acetaldehyde – H001	A	N
Benzene – H017	A	N
Chlorine – H038	A	N
p-Cresol – H052	A	N
Dibenzofuran – H058	A	N
Formaldehyde – H095	A	N
Hydrochloric Acid – H106	A	N
Manganese Compounds – H113	A	N
Mercury – H114	B	N
Naphthalene – H132	A	N
Phenol – H144	A	N
Polycyclic Organic Matter – H151	A	N
Styrene – H163	A	N
Toluene – H169	A	N

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions Cap	2. Facility-Wide Cap [Y or N]? (all units)	3. Emissions Unit ID's Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap

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

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: UC-FI-C1 ☐ Previously Submitted, Date:_____

2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: UC-FI-C2 ☐ Previously Submitted, Date:_____

3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: UC-FI-C3 ☐ Previously Submitted, Date:_____

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location:
   ☐ Attached, Document ID:_____ ☒ Not Applicable (existing permitted facility)

2. Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL):
   ☒ Attached, Document ID: Part B

3. Rule Applicability Analysis:
   ☒ Attached, Document ID: Part B

4. List of Exempt Emissions Units:
   ☐ Attached, Document ID:_____ ☒ Not Applicable (no exempt units at facility)

5. Fugitive Emissions Identification:
   ☐ Attached, Document ID:_____ ☒ Not Applicable

6. Air Quality Analysis (Rule 62-212.400(7), F.A.C.):
   ☐ Attached, Document ID:_____ ☒ Not Applicable

7. Source Impact Analysis (Rule 62-212.400(5), F.A.C.):
   ☐ Attached, Document ID:_____ ☒ Not Applicable

8. Air Quality Impact since 1977 (Rule 62-212.400(4)(e), F.A.C.):
   ☐ Attached, Document ID:_____ ☒ Not Applicable

9. Additional Impact Analyses (Rules 62-212.400(8) and 62-212.500(4)(e), F.A.C.):
   ☐ Attached, Document ID:_____ ☒ Not Applicable

10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.):
    ☐ Attached, Document ID:_____ ☒ Not Applicable

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units:
   ☐ Attached, Document ID:_____ ☐ Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities: (Required for initial/renewal applications only)
   ☐ Attached, Document ID:_____ ☐ Not Applicable (revision application)

2. Identification of Applicable Requirements: (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought)
   ☐ Attached, Document ID:_____
   ☐ Not Applicable (revision application with no change in applicable requirements)

3. Compliance Report and Plan: (Required for all initial/revision/renewal applications)
   ☐ Attached, Document ID:_____
   Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.

4. List of Equipment/Activities Regulated under Title VI: (If applicable, required for initial/renewal applications only)
   ☐ Attached, Document ID:_____
   ☐ Equipment/Activities Onsite but Not Required to be Individually Listed
   ☐ Not Applicable

5. Verification of Risk Management Plan Submission to EPA: (If applicable, required for initial/renewal applications only)
   ☐ Attached, Document ID:_____ ☐ Not Applicable

6. Requested Changes to Current Title V Air Operation Permit:
   ☐ Attached, Document ID:_____ ☐ Not Applicable

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Facilities Subject to Acid Rain, CAIR, or Hg Budget Program

1. Acid Rain Program Forms:

   Acid Rain Part Application (DEP Form No. 62-210.900(1)(a)):
   ☐ Attached, Document ID:_____ ☐ Previously Submitted, Date:_____
   ☒ Not Applicable (not an Acid Rain source)

   Phase II NO_X Averaging Plan (DEP Form No. 62-210.900(1)(a)1.):
   ☐ Attached, Document ID:_____ ☐ Previously Submitted, Date:_____
   ☒ Not Applicable

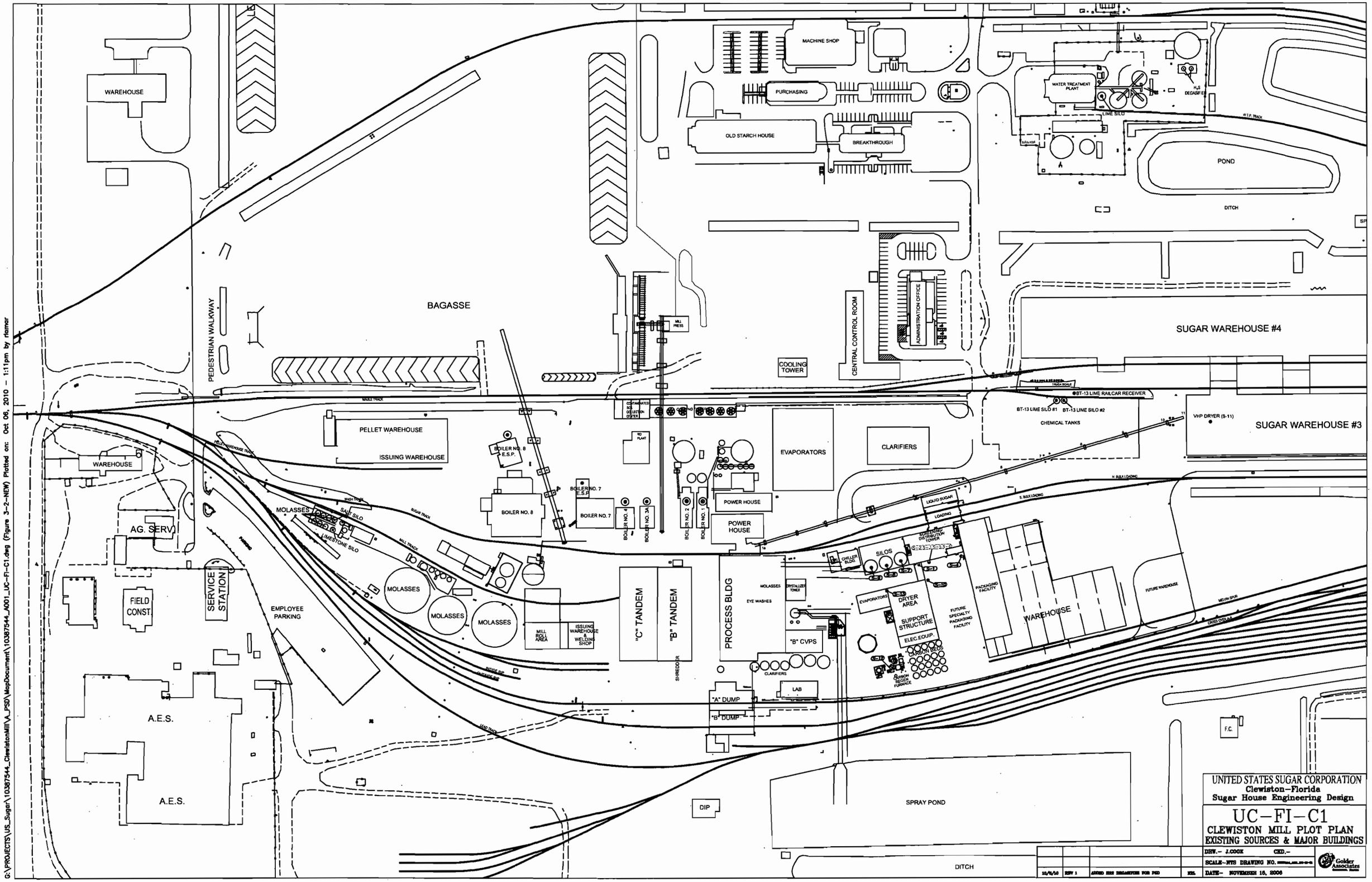
   New Unit Exemption (DEP Form No. 62-210.900(1)(a)2.):
   ☐ Attached, Document ID:_____ ☐ Previously Submitted, Date:_____
   ☒ Not Applicable

2. CAIR Part (DEP Form No. 62-210.900(1)(b)):
   ☐ Attached, Document ID:_____ ☐ Previously Submitted, Date:_____
   ☒ Not Applicable (not a CAIR source)

Additional Requirements Comment

ATTACHMENT UC-FI-C1

PLOT PLAN



G:\PROJECTS\US_Sugar\10387544_ClewistonMill\A_PSD\MapDocument\10387544_A001_UC-FI-C1.dwg (Figure 3-2-NEW) Plotted on: Oct 06, 2010 – 1:11pm by rlamar

UNITED STATES SUGAR CORPORATION
Clewiston–Florida
Sugar House Engineering Design

UC–FI–C1

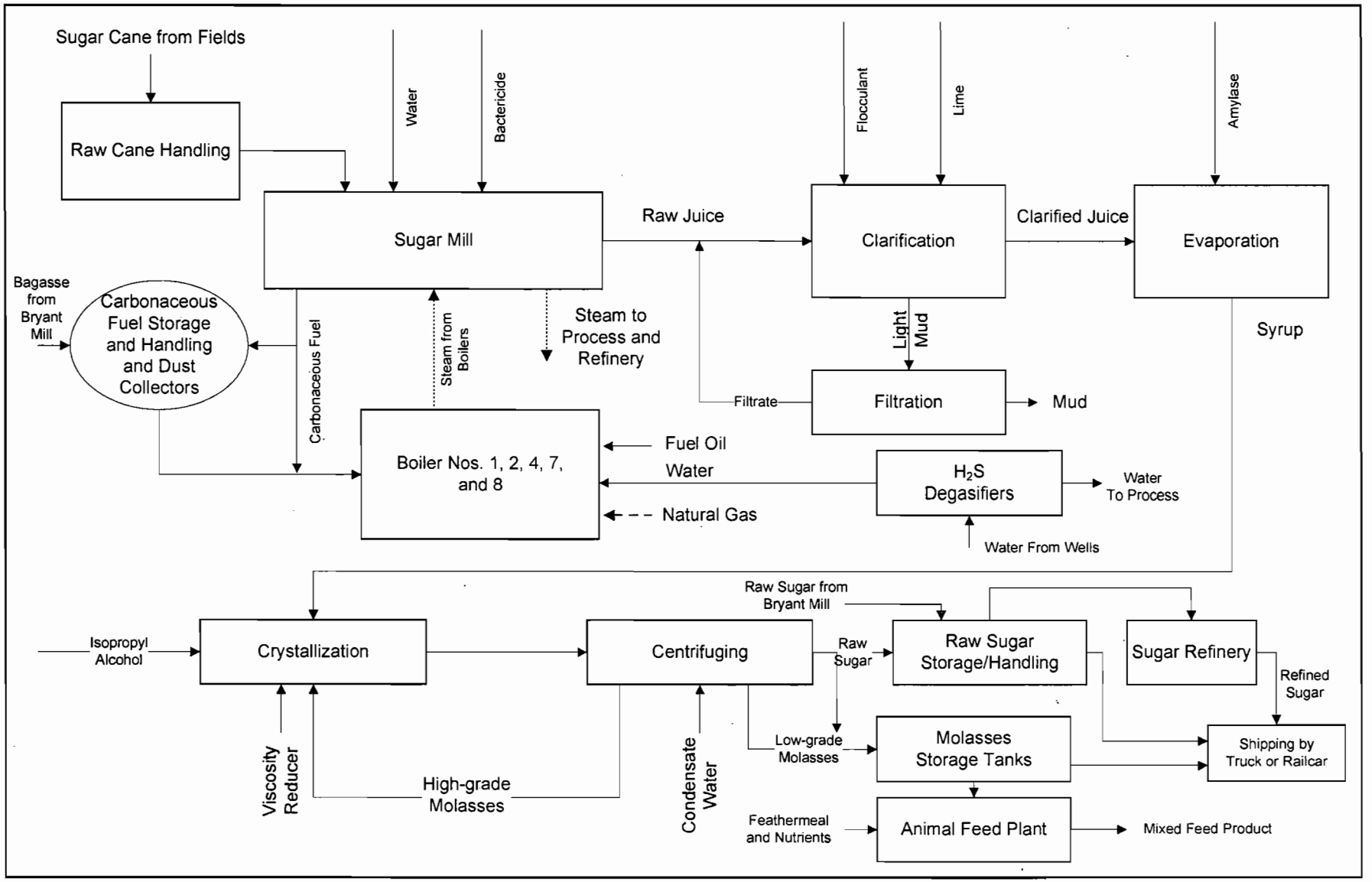
CLEWISTON MILL PLOT PLAN
EXISTING SOURCES & MAJOR BUILDINGS

				DRW.– J.COOK CKD.–
				SCALE–NTS DRAWING NO. [redacted]
10/8/10	REV 1	ADDED SSS DESIGNATION FOR PSD	RPL	DATE– NOVEMBER 16, 2006

Golder Associates

ATTACHMENT UC-FI-C2

PROCESS FLOW DIAGRAM



Attachment UC-FI-C2
Process Flow Diagram
U.S. Sugar Corporation
Clewiston Mill, Florida

Process Flow Legend
Solid/Liquid ——→
Steam ·····→
Gaseous – – – →

Golder Associates

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ATTACHMENT UC-FI-C3

PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

ATTACHMENT UC-FI-C3

PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

The Clewiston Mill has the potential to emit unconfined particulate matter (PM) as a result of the operation of the facility. Examples of fugitive PM emissions include:

- Fugitive PM from carbonaceous fuel storage and handling
- Fugitive dust from boiler ash removal and handling
- Fugitive PM from cane handling operations
- Fugitive PM from painting operations
- Fugitive dust from paved and unpaved roads
- Fugitive PM from the use of bagged chemical products

The following measures are undertaken at the Clewiston Mill to minimize fugitive PM emissions, in accordance with 62-296.320(4)(c), F.A.C. These measures are described below:

- The use of covered conveyors on the carbonaceous fuel handling systems
- The use of enclosed material transfer points where feasible
- Minimization of the distance carbonaceous fuel is dropped during handling
- The use of windbreaks around the material handling equipment and storage piles
- The use of enclosures and curtains to reduce fugitive PM emissions from painting operations
- The use of water to control boiler ash dust during disposal
- Maintenance of paved areas as needed
- The use of reasonable precautions when reclaiming dry bagasse for the boilers

III. EMISSIONS UNIT INFORMATION

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

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

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

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

EMISSIONS UNIT INFORMATION
Section [1]
Sugar Refinery

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)
   - ☐ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
   - ☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)
   - ☐ This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
   - ☒ This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
   - ☐ This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:
   Sugar Refinery Operations

3. Emissions Unit Identification Number: **015, 016, 017, 018, 019, 020, 021, 022, 029**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:
A			**20**

8. Federal Program Applicability: (Check all that apply)
   - ☐ Acid Rain Unit
   - ☐ CAIR Unit

9. Package Unit:
   Manufacturer: Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:
    This emissions unit represents the sugar refinery operations, which produces bulk and bagged sugar. For a list of sources, see Attachment UC-EU1-A11.

Emissions Unit Control Equipment/Method: Control 1 of 6

1. Control Equipment/Method Description:
   Fabric Filter – Low Temperature (T < 180°F) – Baghouses controlling the VHP Dryer, White Sugar Dryer No. 1, Vacuum Systems, Conditioning Silos, Sugar/Starch Bins, and Packaging Operations
2. Control Device or Method Code: **018**

Emissions Unit Control Equipment/Method: Control 2 of 6

1. Control Equipment/Method Description:
   Direct Flame Afterburner – Controls the Granular Carbon Regeneration Furnace
2. Control Device or Method Code: **021**

Emissions Unit Control Equipment/Method: Control 3 of 6

1. Control Equipment/Method Description:
   Venturi Scrubber – Controls the Granular Carbon Regeneration Furnace
2. Control Device or Method Code: **053**

Emissions Unit Control Equipment/Method: Control 4 of 6

1. Control Equipment/Method Description:
   Impingement Plate Scrubber – Controls the Granular Carbon Regeneration Furnace
2. Control Device or Method Code: **055**

Emissions Unit Control Equipment/Method: Control 5 of 6

1. Control Equipment/Method Description:
   Centrifugal Collector – High Efficiency – Controls the White Sugar Dryer No. 2
2. Control Device or Method Code: **007**

Emissions Unit Control Equipment/Method: Control 6 of 6

1. Control Equipment/Method Description:
   Wet Scrubber – Controls the White Sugar Dryer No. 2
2. Control Device or Method Code: **141**

B. EMISSIONS UNIT CAPACITY INFORMATION
(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: **803,000 TPY of refined sugar**	
2. Maximum Production Rate: **803,000 TPY of refined sugar loaded out**	
3. Maximum Heat Input Rate: million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule:	
24 hours/day	**7** days/week
52 weeks/year	**8,760** hours/year
6. Operating Capacity/Schedule Comment:	
Maximum process rate refers to refined sugar loaded out from the refinery. Maximum daily production rate is 2,250 TPD. Maximum production rate of bulk and bagged refined sugar packaged in the refinery is 2,000 TPD and 730,000 TPY. PSD-FL-272B and PSD-FL-346A	

C. EMISSION POINT (STACK/VENT) INFORMATION

(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **Sugar Refinery**	2. Emission Point Type Code: **3**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **See Attachment UC-EU1-A11.**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **H**	6. Stack Height: **80** feet	7. Exit Diameter: **7.0 x 6.0** feet
8. Exit Temperature: **90**°F	9. Actual Volumetric Flow Rate: **98,000** acfm	10. Water Vapor: **4** %
11. Maximum Dry Standard Flow Rate: **86,000** dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: **Stack parameters represent White Sugar Dryer No. 2 discharge vent. See Attachment UC-EU1-A11 for a list of all stacks and their parameters in this emissions unit.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type): **Food and Agriculture; Sugar Cane Processing; General**		
2. Source Classification Code (SCC): **3-02-015-01**	3. SCC Units: **Tons Produced**	
4. Maximum Hourly Rate: **100**	5. Maximum Annual Rate: **803,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: **Maximum hourly and annual rates refer to the amount of refined sugar that can be loaded out from the facility. Maximum daily production limited to 2,250 TPD. Permit No. 0510003-026-AC/PSD-FL-346A**		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type): **Food and Agriculture; Sugar Cane Processing; Other Not Classified**		
2. Source Classification Code (SCC): **3-02-015-99**	3. SCC Units: **Tons Processed**	
4. Maximum Hourly Rate: **85**	5. Maximum Annual Rate: **730,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: **Maximum hourly rate based on 2,000 TPD. Rates refer to the amount of refined sugar that could be processed through packaging operations. Permit No. 0510003-026-AC/PSD-FL-346A**		

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

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): **In-Process Fuel Use; Distillate Oil; General**		
2. Source Classification Code (SCC): **3-90-005-89**	3. SCC Units: **Thousand Gallons Burned**	
4. Maximum Hourly Rate: **0.09**	5. Maximum Annual Rate: **788.4**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.05**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **138**
10. Segment Comment: **Maximum rates refer to the amount of No. 2 Fuel Oil burned in the Granular Carbon Regeneration Furnace (GCRF) and afterburner.**		

Segment Description and Rate: Segment _____ of _____

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

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
Particulate Matter - PM	018, 053, 007	055, 141	EL
Particulate Matter - PM10	018, 053, 007	055, 141	EL
Particulate Matter - PM2.5	018, 053, 007	055, 141	NS
Sulfur Dioxide - SO2			EL
Nitrogen Oxides - NOX			NS
Carbon Monoxide - CO			NS
Volatile Organic Compounds - VOC	021		EL
Sulfuric Acid Mist - SAM			NS
Lead - Pb			NS
Mercury (Hg) – H114			NS

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **19.59** lb/hour **85.8** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **19.59 lb/hr (combined from all sources)** Reference: **Permit Limit**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): **(See Part B)** tons/year	8.b. Baseline 24-month Period: From: **(See Part B)** To: **(See Part B)**
9.a. Projected Actual Emissions (if required): **(See Part B)** tons/year	9.b. Projected Monitoring Period: ☒ 5 years ☐ 10 years

10. Calculation of Emissions:

Hourly: 19.59 lb/hr combined from all sources (maximum permitted emission rate)

Annual: 19.59 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 85.8 TPY

11. Potential, Fugitive, and Actual Emissions Comment:

Potential emissions are the combination of total PM emissions. VHP Sugar Dryer (EU 015) is not affected by the addition of the fifth vacuum pan.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **8**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.7 lb/hr**	4. Equivalent Allowable Emissions: **0.7** lb/hour **3.07** tons/year
5. Method of Compliance: **EPA Method 5**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-032-AV. Applies to Granular Carbon Regeneration Furnace (EU 017).**	

Allowable Emissions Allowable Emissions **2** of **8**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.44 lb/hr**	4. Equivalent Allowable Emissions: **1.44** lb/hour **6.30** tons/year
5. Method of Compliance: **EPA Method 5**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-032-AV. Applies to the White Sugar Dryer No. 1 (EU 016).**	

Allowable Emissions Allowable Emissions **3** of **8**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.18**	4. Equivalent Allowable Emissions: **0.16** lb/hour **0.84** tons/year
5. Method of Compliance: **EPA Method 5**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-032-AV. Applies to the Vacuum Systems (EU 018).**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **4** of **8**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.18 lb/hr**	4. Equivalent Allowable Emissions: **0.18** lb/hour **0.75** tons/year
5. Method of Compliance: **EPA Method 5**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-032-AV. Applies to the Conditioning Silos (EU 019).**	

Allowable Emissions Allowable Emissions **5** of **8**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.25 lb/hr**	4. Equivalent Allowable Emissions: **0.25** lb/hour **1.07** tons/year
5. Method of Compliance: **EPA Method 5**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-032-AV. Applies to the Sugar/Starch Bins (EU 020).**	

Allowable Emissions Allowable Emissions **6** of **8**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.21 lb/hr**	4. Equivalent Allowable Emissions: **0.21** lb/hour **0.90** tons/year
5. Method of Compliance: **EPA Method 5**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-032-AV. Applies to the Sugar Packaging (EU 022).**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 7 of 8

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **15.0 lb/hr**	4. Equivalent Allowable Emissions: **15.0** lb/hour **65.7** tons/year
5. Method of Compliance: **EPA Method 5**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-032-AV. Applies to the White Sugar Dryer No. 2 (EU 029).**	

Allowable Emissions Allowable Emissions 8 of 8

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.63 lb/hr**	4. Equivalent Allowable Emissions: **1.63** lb/hour **7.14** tons/year
5. Method of Compliance: **EPA Method 5**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-032-AV. Applies to the VHP Sugar Dryer (EU 015).**	

Allowable Emissions Allowable Emissions _____ of _____

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

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **PM10**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **8.79** lb/hour **38.5** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **4.2 lb/hr from White Sugar Dryer No. 2 (EU 029)** Reference: **Permit Limit**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): **(See Part B)** tons/year	8.b. Baseline 24-month Period: From: **(See Part B)** To: **(See Part B)**
9.a. Projected Actual Emissions (if required): **(See Part B)** tons/year	9.b. Projected Monitoring Period: ☒ 5 years ☐ 10 years

10. Calculation of Emissions:

Hourly: 8.79 lb/hr (based on 100-percent of permit limits for PM)

Annual: 8.79 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 38.5 TPY

11. Potential, Fugitive, and Actual Emissions Comment:

PM10 assumed to be 100-percent of PM emissions for all sources except the White Sugar Dryer No. 2, which has a PM10 emission limit of 4.2 lb/hr (Permit No. 0510003-032-AV). VHP Sugar Dryer (EU 015) is not affected by the addition of the fifth vacuum pan.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **4.2 lb/hr**	4. Equivalent Allowable Emissions: **4.2** lb/hour **18.4** tons/year
5. Method of Compliance: **EPA Method 5**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-032-AV. Applies to the White Sugar Dryer No. 2 (EU 029).**	

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **PM2.5**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **8.79** lb/hour **38.5** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **100-percent of PM10 Emissions** Reference: **Conservative Assumption**	7. Emissions Method Code: **5**
8.a. Baseline Actual Emissions (if required): **(See Part B)** tons/year	8.b. Baseline 24-month Period: From: **(See Part B)** To: **(See Part B)**
9.a. Projected Actual Emissions (if required): **(See Part B)** tons/year	9.b. Projected Monitoring Period: ☒ 5 years ☐ 10 years

10. Calculation of Emissions:

Hourly: 8.79 lb/hr (based on 100-percent of permit limits for PM or PM10)

Annual: 8.79 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 38.5 TPY

11. Potential, Fugitive, and Actual Emissions Comment:

$PM_{2.5}$ assumed to be 100-percent of PM_{10} emissions for all sources. VHP Sugar Dryer (EU 015) is not affected by the addition of the fifth vacuum pan.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **SO2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.63** lb/hour **2.75** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.05-percent sulfur (by weight)** Reference: **Permit Limit**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): **(See Part B)** tons/year	8.b. Baseline 24-month Period: From: **(See Part B)** To: **(See Part B)**
9.a. Projected Actual Emissions (if required): **(See Part B)** tons/year	9.b. Projected Monitoring Period: ☒ 5 years ☐ 10 years

10. Calculation of Emissions:

Hourly: 0.05 lb S/100 lb fuel x 6.98 lb/gallon x 2 lb SO2/lb S x 90 gal/hr = 0.63 lb/hr

Annual: 0.63 lb/hr x 8,760 hr/yr x 1 ton/2,000 = 2.75 TPY

11. Potential, Fugitive, and Actual Emissions Comment:

Represents SO_2 emissions from the Granular Carbon Regeneration Furnace (EU 017)

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.05-percent Sulfur (by weight)**	4. Equivalent Allowable Emissions: **0.63** lb/hour **2.75** tons/year
5. Method of Compliance: **Fuel Analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-032-AV. Applies to the Granular Carbon Regeneration Furnace (EU 017)**	

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **NOX**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **3** lb/hour **13.1** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **3 lb/hr** Reference: **Manufacturer's Design Specifications**	7. Emissions Method Code: **5**
8.a. Baseline Actual Emissions (if required): **(See Part B)** tons/year	8.b. Baseline 24-month Period: From: **(See Part B)** To: **(See Part B)**
9.a. Projected Actual Emissions (if required): **(See Part B)** tons/year	9.b. Projected Monitoring Period: ☒ 5 years ☐ 10 years
10. Calculation of Emissions: **Hourly: 3 lb/hr** **Annual: 3 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 13.1 TPY**	
11. Potential, Fugitive, and Actual Emissions Comment: **Hourly emission factor based on the manufacturer's design specifications**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **3** lb/hour **13.1** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **3 lb/hr** Reference: **Manufacturer's Design Specifications**	7. Emissions Method Code: **5**
8.a. Baseline Actual Emissions (if required): **(See Part B)** tons/year	8.b. Baseline 24-month Period: From: **(See Part B)** To: **(See Part B)**
9.a. Projected Actual Emissions (if required): **(See Part B)** tons/year	9.b. Projected Monitoring Period: ☒ 5 years ☐ 10 years
10. Calculation of Emissions: **Hourly: 3 lb/hr** **Annual: 3 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 13.1 TPY**	
11. Potential, Fugitive, and Actual Emissions Comment: **Hourly emission factor based on the manufacturer's design specifications**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions ____ of ____

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

Allowable Emissions Allowable Emissions ____ of ____

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

Allowable Emissions Allowable Emissions ____ of ____

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

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **4.42** lb/hour **19.4** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **1.0 lb/hr from GCRF** Reference: **Permit Limit**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): **(See Part B)** tons/year	8.b. Baseline 24-month Period: From: **(See Part B)** To: **(See Part B)**
9.a. Projected Actual Emissions (if required): **(See Part B)** tons/year	9.b. Projected Monitoring Period: ☒ 5 years ☐ 10 years

10. Calculation of Emissions:

Hourly:
GCRF – 1.0 lb/hr
Alcohol Usage – 30,000 lb/yr x 1 yr/8,760 hr = 3.42 lb/hr
Total – 1.0 lb/hr + 3.42 lb/hr = 4.42 lb/hr

Annual: 4.42 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 19.4 TPY

11. Potential, Fugitive, and Actual Emissions Comment:

Alcohol usage limited to 30,000 lb per 12 consecutive 12-months

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **2**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.0 lb/hr**	4. Equivalent Allowable Emissions: **1.0** lb/hour **4.38** tons/year
5. Method of Compliance: **EPA Method 25A and 18**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-032-AV. Applies to Granular Carbon Regeneration Furnace (EU 017)**	

Allowable Emissions Allowable Emissions **2** of **2**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **30,000 lb/yr**	4. Equivalent Allowable Emissions: **3.42** lb/hour **15.0** tons/year
5. Method of Compliance: **Track alcohol usage**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-032-AV. Applies to Alcohol Usage (EU 021)**	

Allowable Emissions Allowable Emissions _____ of _____

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

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **SAM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.03** lb/hour **0.12** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **4.45-percent of SO_2 Emissions** Reference: **AP-42**	7. Emissions Method Code: **4**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

Hourly: 0.63 lb/hr SO_2 x 4.45 lb SAM/100 lb SO_2 = 0.03 lb/hr

Annual: 0.03 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 0.12 TPY

11. Potential, Fugitive, and Actual Emissions Comment:

Emission factor based on similar derivation of sulfuric acid mist from AP-42 for fuel oil: 3.6-percent of SO_2 becomes SO_3, then multiply by the ratio of sulfuric acid mist and sulfur trioxide molecular weights (98/80).

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions ____ of ____

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

Allowable Emissions Allowable Emissions ____ of ____

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

Allowable Emissions Allowable Emissions ____ of ____

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

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Pb**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **$1.12x10^{-4}$** lb/hour **$4.9x10^{-4}$** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **$9x10^{-6}$ lb/MMBtu** Reference: **AP-42 Table 1.3-10 for distillate oil firing**	7. Emissions Method Code: **4**
8.a. Baseline Actual Emissions (if required): **(See Part B)** tons/year	8.b. Baseline 24-month Period: From: **(See Part B)** To: **(See Part B)**
9.a. Projected Actual Emissions (if required): **(See Part B)** tons/year	9.b. Projected Monitoring Period: ☒ 5 years ☐ 10 years

10. Calculation of Emissions:

Hourly: $9x10^{-6}$ lb/MMBtu x $0.09x10^{3}$ gal/hr x 138 MMBtu/10^{3} gal = $1.12x10^{-4}$ lb/hr

Annual: $1.12x10^{-4}$ lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = $4.9x10^{-4}$ TPY

11. Potential, Fugitive, and Actual Emissions Comment:

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Hg (H114)**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **$3.73x10^{-5}$** lb/hour **$1.6x10^{-4}$** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **$3x10^{-6}$ lb/MMBtu** Reference: **AP-42 Table 1.3-10 for distillate oil firing**	7. Emissions Method Code: **4**
8.a. Baseline Actual Emissions (if required): **(See Part B)** tons/year	8.b. Baseline 24-month Period: From: **(See Part B)** To: **(See Part B)**
9.a. Projected Actual Emissions (if required): **(See Part B)** tons/year	9.b. Projected Monitoring Period: ☒ 5 years ☐ 10 years

10. Calculation of Emissions:

Hourly: $3x10^{-6}$ lb/MMBtu x $0.09x10^{3}$ gal/hr x 138 MMBtu/10^{3} gal = $3.73x10^{-5}$ lb/hr

Annual: $3.73x10^{-5}$ lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = $1.6x10^{-4}$ TPY

11. Potential, Fugitive, and Actual Emissions Comment:

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

G. VISIBLE EMISSIONS INFORMATION

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

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: **VE05**	2. Basis for Allowable Opacity: ☐ Rule ☒ Other
3. Allowable Opacity: Normal Conditions: **5** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **EPA Method 9**	
5. Visible Emissions Comment: **Permit No. 0510003-032-AV. Applies to the VHP Dryer (EU 015), White Sugar Dryer No. 1 (EU 016), Vacuum Systems (EU 018), Conditioning Silos (EU 019), Sugar/Starch Bins (EU 020), and Sugar Packaging (EU 022).**	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: **VE10**	2. Basis for Allowable Opacity: ☐ Rule ☒ Other
3. Allowable Opacity: Normal Conditions: **10** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **EPA Method 9**	
5. Visible Emissions Comment: **Permit No. 0510003-032-AV. Applies to the Granular Carbon Regeneration Furnace (EU 017) and White Sugar Dryer No. 2 (EU 029).**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor 1 of 4

1. Parameter Code: **TEMP**	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☒ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Temperature of afterburner on Granular Carbon Regeneration Furnace (EU 017)**	

Continuous Monitoring System: Continuous Monitor 2 of 4

1. Parameter Code: **FLOW**	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☒ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitoring of wet scrubber water recirculation rate (GPM) for White Sugar Dryer No. 2 (EU 029). Permit No. 0510003-032-AV.**	

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Continuous Monitoring System: Continuous Monitor **3** of **4**

1. Parameter Code: **PRS**	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☒ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitoring of pressure differential across the wet scrubber (inches of water column) for White Sugar Dryer No. 2. Permit No. 0510003-032-AV.**	

Continuous Monitoring System: Continuous Monitor **4** of **4**

1. Parameter Code: **PRS**	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☒ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Measuring of pressure differential across the venturi scrubber and wet tray scrubber (inches of water column) for Granular Carbon Regeneration Furnace (EU 017). Permit No. 0510003-032-AV.**	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **UC-EU1-I1** ☐ Previously Submitted, Date _____

2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **UC-EU1-I2** ☐ Previously Submitted, Date _____

3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **UC-EU1-I3** ☐ Previously Submitted, Date _____

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

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

6. Compliance Demonstration Reports/Records:
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☐ Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☐ To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☒ Not Applicable
   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

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

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1.	Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): ☐ Attached, Document ID: _____ ☒ Not Applicable
2.	Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): ☐ Attached, Document ID: _____ ☒ Not Applicable
3.	Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) ☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1.	Identification of Applicable Requirements: ☐ Attached, Document ID: _____
2.	Compliance Assurance Monitoring: ☐ Attached, Document ID: _____ ☐ Not Applicable
3.	Alternative Methods of Operation: ☐ Attached, Document ID: _____ ☐ Not Applicable
4.	Alternative Modes of Operation (Emissions Trading): ☐ Attached, Document ID: _____ ☐ Not Applicable

Additional Requirements Comment

See Part B.

ATTACHMENT UC-EU1-A11

SOURCES AND RESPECTIVE STACK PARAMETERS INCLUDED IN THE SUGAR REFINERY

ATTACHMENT UC-EU1-A11

SOURCES AND RESPECTIVE STACK PARAMETERS INCLUDED IN THE SUGAR REFINERY

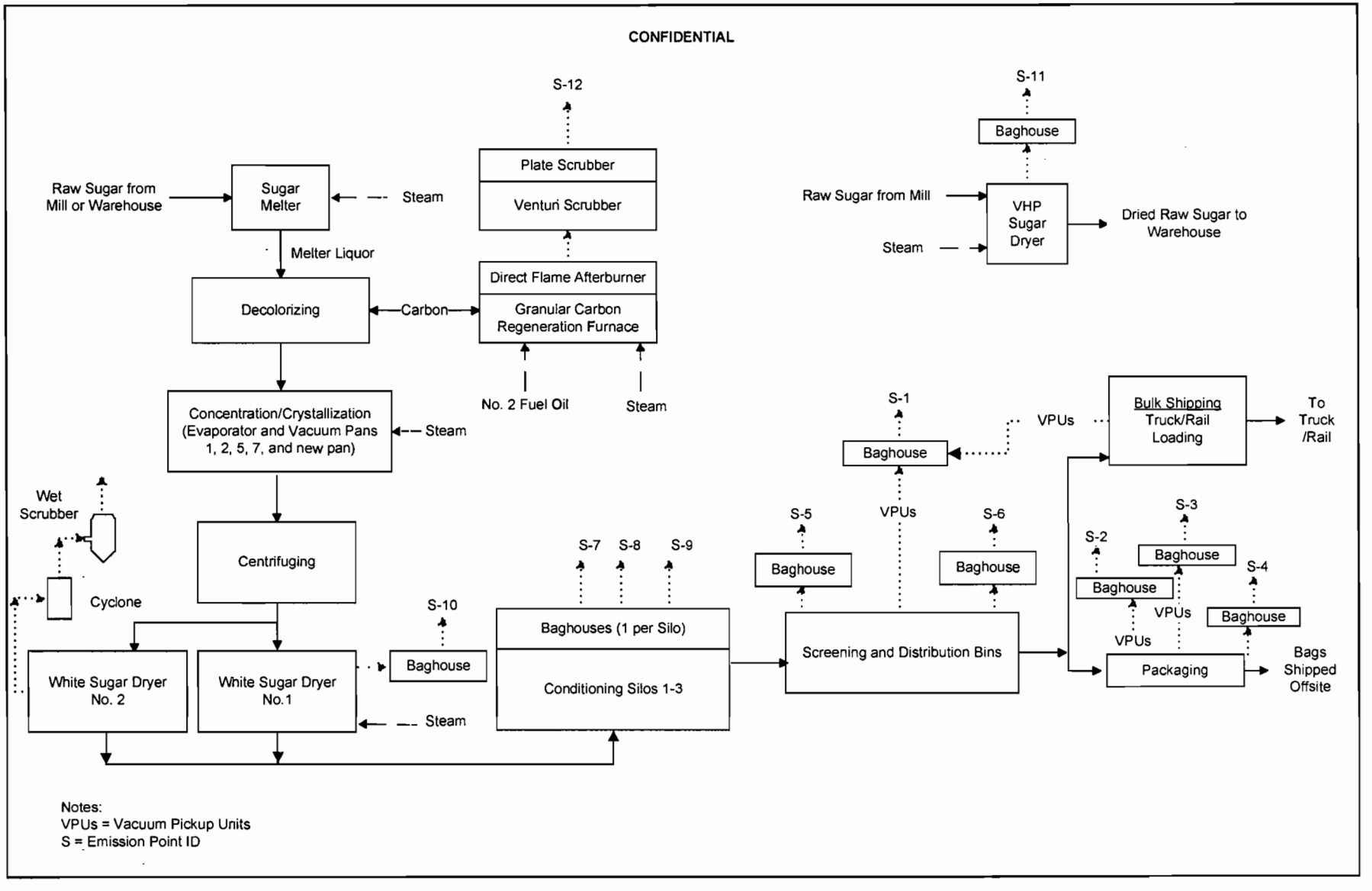
Source/Vent Name	EU ID	Stack No.	Stack/Vent Release Height (ft)	Stack/Vent Diameter (ft)	Exhaust Flow (acfm)	Exit Velocity [a] (ft/sec)	Gas Exit Temp. (°F)
VHP Sugar Dryer	015	S-11	45	4.79	127,000	0.29	115
White Sugar Dryer No. 1	016	S-10	75	7.31	113,000	0.29	115
Granular Carbon Regeneration Furnace	017	S-12	30	2.00	4,300	22.8	160
Vacuum Systems – Screening & Distribution Vacuum	018	S-1	65	0.50	1,705	0.29	68
Vacuum Systems – 100-lb Bagging Vacuum System	018	S-2	65	0.50	1,564	0.29	90
Vacuum Systems – 5-lb Bagging Vacuum System	018	S-3	65	0.50	1,585	0.29	90
Conditioning Silo No. 2	019	S-7	130	1.37	3,000	0.29	110
Conditioning Silo No. 4	019	S-8	130	1.37	3,000	0.29	110
Conditioning Silo No. 6	019	S-9	130	1.37	3,000	0.29	110
Sugar/Starch Bins – Screening and Distribution #1	020	S-5	72	0.95	3,200	0.29	125
Sugar/Starch Bins – Screening and Distribution #2	020	S-6	72	1.94	10,500	0.29	125
Sugar Packaging	022	S-4	60	1.94	11,500	0.29	125
White Sugar Dryer No. 2	029	–	80	7 × 6	92,000	38.9	113

[a] All sources but the Granular Carbon Regeneration Furnace have horizontal discharge.

ATTACHMENT UC-EU1-I1

PROCESS FLOW DIAGRAM

CONFIDENTIAL



Attachment UC-EU1-I1
Process Flow Diagram
U.S. Sugar Corporation - Clewiston, FL

Process Flow Legend
Solid/Liquid ——→
Air ·····→
Steam — — →

Golder Associates

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ATTACHMENT UC-EU1-I2

FUEL ANALYSIS OR SPECIFICATION

ATTACHMENT UC-EU1-I2

FUEL ANALYSIS SPECIFICATION FOR U.S. SUGAR CORPORATION
Granular Carbon Regeneration Furnace

Parameter	Low Sulfur No. 2 Fuel Oil [a] (0.05% max S)
Density (lb/gal)	7.2 [a]
Approximate Heating Value (Btu/lb)	18,750
Approximate Heating Value (Btu/gal)	135,000-139,000
Ultimate Analysis (dry basis):	
Carbon	87.3% [b]
Hydrogen	12.6% [b]
Nitrogen	0.22% [b]
Oxygen	0.04% [b]
Sulfur	0.05%
Ash/Inorganic	<0.001% [a]
Moisture	0.05%

Note: All values represent average fuel characteristics.

[a] Source: Marathon Ashland Pretoleum LLC; Coastal Fuels.

[b] Source: Perry's Chemical Engineers' Handbook. Sixth Edition.

ATTACHMENT UC-EU1-I3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

ATTACHMENT UC-EU1-I3a

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

Control Equipment Parameters for White Sugar Dryer No. 2 Cyclone Collectors

Manufacturer	Entoleter, LLC
Model No.	Model 6600
No. of Cyclones	4
Inlet Gas Temp	110°F
Inlet Gas Flow Rate	105,000 acfm
Pressure Drop Across Cyclones	6 in. H_2O
Inlet Dust Loading	11,760 lb/hr; 14 gr/dscf
Outlet Dust Loading	118 lb/hr
Particulate Removal Efficiency	99%

Note: All values are based on manufacturer's design information and are subject to revision.

All values represent typical operating conditions.

ATTACHMENT UC-EU1-I3b

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

Control Equipment Parameters for White Sugar Dryer No. 2 Wet Scrubber

Manufacturer	Entoleter, LLC
Model No.	Centrifield Vortex Model 1500
Inlet Gas Temp	113°F
Inlet Gas Flow Rate	105,000 acfm; 96,000 dscfm
Pressure Drop Across Scrubber	8 - 10 in. H_2O
Scrubber Recirculation Flow Rate	500 GPM
Scrubber Make-Up Flow Rate	12 GPM
Inlet Dust Loading	118 lb/hr
Outlet Dust Loading (PM)	15 lb/hr
Outlet Dust Loading (PM_{10})	4.2 lb/hr
Particulate Removal Efficiency	96%

PART B

Table of Contents

List of Tables

Appendices

1.0 INTRODUCTION

United States Sugar Corporation (U.S. Sugar) owns and operates a sugar mill and refinery located in Clewiston, Hendry County, Florida. The mill and refinery currently operate under Title V Operating Permit No. 0510003-032-AV, issued August 20, 2010.

Sugarcane is harvested from adjacent, neighboring, and remote fields in Glades, Hendry, Martin, and Palm Beach counties, and transported to the mill by train. In the mill, sugarcane is cut into small pieces and processed in a series of presses to squeeze juice from the cane. The juice undergoes clarification, separation, evaporation, and crystallization to produce raw, unrefined sugar. In the refinery, raw sugar is decolorized, concentrated, crystallized, dried, conditioned, screened, packaged, stored, and distributed as refined sugar. In the crystallization process, raw sugar syrup is pressure filtered through cloth, passed through decolorizing columns containing activated carbon, boiled in a vacuum pan, and seeded with fine sugar crystals. The sugar crystals grow in size within the vacuum pan. When the crystals are large enough, they are discharged from the pan, centrifuged to remove excess liquid, and dried. The dried sugar is then graded into required sizes prior to packaging or shipping to customers.

The fibrous byproduct remaining from the sugarcane is called bagasse and is burned as boiler fuel to provide steam and heating requirements for the mill and refinery. Molasses is also produced as a byproduct. Molasses is stored and processed into an animal feed product for sale.

U.S. Sugar is requesting authorization to install a new vacuum pan in the sugar refinery, for a total of five vacuum pans. This additional vacuum pan will be used to reduce the overall load on the other vacuum pans, as well as allow an increase in the production of refined sugar by approximately 180 tons per day (TPD).

The addition of the fifth vacuum pan will also require an increase in steam production during the sugarcane off-crop season. The sugarcane processing season runs for approximately seven months, beginning in October and ending in April, although the actual start and end times vary depending on many different factors. During the sugarcane processing season, steam demand at the U.S. Sugar facility is met by the five existing boilers (Boiler Nos. 1, 2, 4, 7, and 8). During the off-crop season, Boiler Nos. 7 or 8 operate as the primary units, due to the low steam demand of the refinery. During the off-crop season, Boiler Nos. 1, 2, and 4 may only operate when Boiler Nos. 7 and 8 are down for maintenance, repair, or during periods of unusually low steam demand.

The addition of the fifth vacuum pan will require an average of an additional 23,000 pounds per hour (lb/hr) of steam, with a maximum steam load of 36,000 lb/hr. U.S. Sugar has determined that excess steam is currently being generated during the crop season. This excess comes from steam that is not efficiently used by the combination of the sugar mill and refinery operations, and is Therefore, available

for other uses. This excess steam will be sufficient to cover the additional steam requirement of the fifth vacuum pan during the crop season.

However, additional operation of the boilers will be required during the off-crop season. The additional steam will be generated during the off-crop season primarily by either Boiler No. 7 or Boiler No. 8, as either of these boilers has sufficient capacity alone to produce the additional steam. However, it is also acknowledged that either of these boilers may be down for maintenance or repair during the crop off-season. Therefore, it is assumed that Boiler No. 2 provides the additional steam for up to 30 days during the crop off-season. Analysis of emissions data from Boiler Nos. 1, 2, and 4 indicate that Boiler No. 2 would in general produce the highest emissions of these three boilers.

A more detailed description of the project is presented in Section 2.0. Air quality review requirements are discussed in Section 3.0. The regulatory applicability analysis for the proposed project, including a prevention of significant deterioration (PSD) applicability analysis, is presented in Section 4.0.

2.0 PROJECT DESCRIPTION

2.1 General

U.S. Sugar owns and operates a raw sugar mill and sugar refinery located in Clewiston, Hendry County, Florida. The Clewiston sugar mill receives sugarcane by train from nearby cane fields and processes it into raw sugar. The cane is first cut into small pieces, and is then passed through a series of presses (mills) where the sugar cane juices are squeezed from the cane. The mills are steam or hydraulically driven. The fibrous co-product material remaining is called bagasse, and is burned in on-site steam boilers as fuel.

The cane juice is further processed and purified through a series of steps involving clarification, separation, evaporation, and crystallization. The final product is raw, unrefined sugar. U.S. Sugar began operating an on-site sugar refinery in 1997, wherein raw sugar is refined into white sugar suitable for human consumption. The refinery was expanded in 2005 with equipment from the Bryant facility that was closed down. Steam is also used in the raw sugar refining process. Both raw and refined sugar are shipped off-site to customers. A flow diagram of the sugar refinery is presented in Attachment UC-EU1-I1 of the air construction permit application.

During the sugarcane processing season, the steam used in the refinery comes from the plant header, which is fed by all five boilers (Boiler Nos. 1, 2, 4, 7, and 8). During the off-season, only the sugar refinery is operating at the Mill, and Boiler Nos. 7 and 8 are the primary boilers to provide steam to the refinery, per permit condition. Boiler Nos. 1, 2, and 4 are only used during the off-season when Boiler Nos. 7 and 8 are down for maintenance, repair, or during periods of unusually low steam demand by the refinery. The sugarcane processing season begins approximately in October and runs through approximately April, although the start and end of the season depends on many factors.

The sugar refinery is currently limited to loading out no more than 2,250 TPD and 803,000 tons per year (TPY) of refined sugar. Refined sugar packaging operations are limited to 2,000 TPD and 730,000 TPY. The following air emission sources make up the refinery operations:

Source	*EU ID*	*Stack ID*
VHP Sugar Dryer	015	S-11
White Sugar Dryer No. 1	016	S-10
Granular Carbon Regeneration Furnace	017	S-12
Vacuum Systems	018	S-1, S-2, S-3
Conditioning Silos	019	S-7, S-8, S-9
Sugar/Starch Bins	020	S-5, S-6
Alcohol Usage	021	–
Sugar Packaging	022	S-4
White Sugar Dryer No. 2	029	–

The Clewiston mill is currently operated under Title V Operation Permit No. 0510003-032-AV, issued August 20, 2010.

2.2 Proposed Project

The sugar refinery currently utilizes four vacuum pans to crystallize refined sugar prior to the final drying and packaging processes (Pan Nos. 1, 2, 5, and 7). U.S. Sugar is requesting authorization to install a fifth vacuum pan. The additional vacuum pan will reduce the overall load on the other four pans, and allow an increase in overall refined sugar production of approximately 180 TPD (about a 10-percent increase over current operations). No other changes will be made to the refinery or Mill as part of this project. In addition, no existing permit conditions associated with the sugar refinery will change as a result of the project. The current permitted capacities of the sugar refinery are adequate.

The new vacuum pan will require an average of 23,000 lb/hr of steam, with up to 36,000 lb/hr during times of peak demand. U.S. Sugar has determined that there is currently excess steam production by the five boilers during the sugarcane crop season that will be used for the new vacuum pan. This excess comes from steam that is not efficiently used by the combination of the sugar mill and refinery operations, and is Therefore, available for other uses. This excess steam will be sufficient to cover the additional steam requirement of the fifth vacuum pan during the sugarcane processing season. Therefore, the five boilers will not generate additional steam during the sugarcane processing season due to the proposed project.

However, additional operation of the boilers will be required during the off-crop season to supply the steam needed for the fifth vacuum pan. The additional steam will be generated during the off-crop season primarily by either Boiler No. 7 or Boiler No. 8, as either of these boilers has sufficient capacity to alone produce the additional steam. However, it is also acknowledged that either of these boilers may be down for maintenance or repair during the crop off-season. Therefore, it is assumed that Boiler No. 2 provides the additional steam for up to 30 days during the off-season. Analysis of emissions data from Boiler Nos. 1, 2, and 4 indicate that Boiler No. 2 would in general produce the highest emissions of these three boilers.

Two different firing scenarios for the boilers have been considered to determine the emissions increases resulting from the addition of the vacuum pan. The off-season operation was assumed to span May through September [3,700 hours per year (hr/yr)]. For the first scenario, steam demand for the additional vacuum pan is provided by Boiler No. 8 during the off-season for 2,980 hr/yr, with Boiler No. 2 providing the steam for the remaining 30 days per year (720 hr/yr) when Boiler No. 8 is down for maintenance. The second scenario is similar to the first, but with Boiler No. 7 providing the steam for the additional vacuum pan for 2,980 hr/yr, and Boiler No. 2 providing the remaining 720 hr/yr. These scenarios ensure that the worst emissions case is identified.

3.0 AIR QUALITY REVIEW REQUIREMENTS

3.1 PSD Review Requirements

The Clewiston Facility is located in an area of Florida (Hendry County) that is in attainment with the National Ambient Air Quality Standards (NAAQS) for all regulated pollutants. Therefore, the proposed project is being evaluated under the PSD portion of the New Source Review (NSR) permitting program. PSD review is used to determine whether significant air quality deterioration will result from a new major facility or a major modification at an existing facility. The Clewiston Facility is considered to be an existing major stationary facility because potential emissions of at least one PSD-regulated pollutant exceed 100 TPY [for example, potential nitrogen oxides (NO_x) emissions currently exceed 100 TPY]. Therefore, PSD review is required for any pollutant for which the net increase in emissions due to the proposed modification is greater than the PSD significant emission rate (SER).

On January 2, 2011, greenhouse gas (GHG) emissions became subject to regulation under the Clean Air Act (CAA), triggering the need to evaluate GHG emissions under the PSD permitting program. The U.S. Environmental Protection Agency (EPA) is currently implementing GHG PSD permitting in the state of Florida, while the Florida Department of Environmental Protection (FDEP) maintains the permitting responsibility for all other regulated pollutants. Therefore, PSD permitting is addressed separately for GHGs and all other regulated pollutants in this section.

3.1.1 FDEP PSD Review Requirements for Non-Greenhouse Gas Emissions

Federal PSD requirements are contained in Title 40, Section 52.21 of the Code of Federal Regulations (40 CFR 52.21), Prevention of Significant Deterioration of Air Quality. FDEP has adopted PSD regulations that are equivalent to the federal PSD regulations for all regulated pollutants except GHGs [Rule 62-212.400, Florida Administrative Code (F.A.C.)]. For an existing major stationary source for which a modification is proposed, the modification is subject to PSD review if it causes two types of emissions increases – a significant emissions increase and a significant net emissions increase. In the first step, emission increases from the project itself are computed and compared to the PSD SERs. If the increases are less than those levels, then no further analysis is necessary and PSD permitting is not required. If the increases for the project itself exceed those levels, then the second step involves additional analysis in order to determine if there will be a significant net emissions increase. The relevant PSD SERs are listed in Table 3-2.

The determination of whether a significant emissions increase will occur is based on comparison of "baseline actual emissions" to "projected actual emissions" for all emissions units affected by the proposed project. "Baseline actual emissions" and "projected actual emissions" are defined in Rules 62-210.200(36) and (244), F.A.C. "Baseline actual emissions" for an existing emissions unit (other than an electric utility steam generating unit), is the average rate, in TPY, at which the emissions unit actually emitted the

pollutant during any consecutive 24-month period, selected by the owner/operator, within the 10-year period immediately preceding the date a complete permit application is received by FDEP. The average rate includes fugitive emissions to the extent quantifiable and emissions associated with startups and shutdowns. The average rate must be adjusted downward to exclude:

- Any non-compliant emissions that occurred while the emissions units were operating above an emissions limitation that was legally enforceable during the consecutive 24-month period
- Any emissions that would have exceeded an emission limitation with which the major stationary source must currently comply, had such major stationary source been required to comply with such limitations during the consecutive 24-month period

For projects involving multiple emissions units, only one consecutive 24-month period can be used for all affected emissions units. However, a different 24-month period can be used for each PSD pollutant.

Rule 62-210.370, F.A.C., establishes the methodology for computing baseline actual emissions and net emissions increases. In general, this rule sets forth a hierarchy of emission estimating methods, of which the most accurate method is to be used. Continuous emission monitoring system (CEMS) are generally recognized as the most accurate method, followed by mass balance calculations, followed by emission factors. If stack test data are used, the emission factor must be based on the average emissions per unit of input, output, or gas volume, whichever is appropriate, of all valid tests conducted during at least a 5-year period encompassing the period over which the emissions are computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.

"Projected actual emissions" is the highest annual rate, in TPY, at which an existing emissions unit is projected to emit a regulated air pollutant in any one of the 5 years following the date the unit resumes regular operation after the project, or in any one of the 10 years following that date, if the project increases the emissions unit's potential to emit that regulated air pollutant, and full utilization of the unit would result in a significant emissions increase or a significant net emissions increase at the facility.

In determining the projected actual emissions, the facility must consider all relevant information, including historical operating data, the company's own representations, the company's expected business activity, the company's filings with the state or federal regulatory authorities, and compliance plans or orders. Fugitive emissions, to the extent quantifiable, and emissions associated with startups and shutdowns shall be considered.

The projected actual emissions must exclude that portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions, and that are also unrelated to the particular project, including any increased

utilization due to demand growth (this is referred to as the "demand growth exclusion"). EPA's final PSD rule revisions, promulgated on December 31, 2002, state:

> *That is, under today's new provisions for non-routine physical or operational changes to existing emissions units, rather than basing a unit's post-change emissions on its PTE, you may project an annual rate, in TPY, that reflects the maximum annual emissions rate that will occur during any one of the 5 years immediately after the physical or operational change. ...This projection of the unit's annual emissions rate following the change is defined as the "projected actual emissions", and will be based on your maximum annual rate in tons per year at which you are projected to emit a regulated NSR pollutant, less any amount of emissions that could have been accommodated during the selected 24-month baseline period and is not related to the change. Accordingly, you will calculate the unit's projected actual emissions as the product of: (1) The hourly emissions rate, which is based on the operational capabilities following the change(s), taking into account legally enforceable restrictions that could affect the hourly emissions rate following the change(s); and (2) the projected level of utilization, which is based on both the emissions unit's historical annual utilization rate and available information regarding the emissions units' likely post-change capacity utilization. ...From the initial calculation, you may then make the appropriate adjustment to subtract out any portion of the emissions increase that could have been accommodated during the unit's 24-month baseline period and is unrelated to the change. [Federal Register, Vol. 67, pg. 80196]*
>
> *Consequently, under today's new rules, when a projected increase in equipment utilization is in response to a factor such as the growth in market demand, you may subtract the emission increases from the unit's projected actual emissions if: (1) The unit could have achieved the necessary level of utilization during the consecutive 24-month period you selected to establish the baseline actual emission; and (2) the increase is not related to the physical or operational change(s) made to the unit. [Federal Register, Vol. 67, pg. 80203]*

Further explanation was provided in the preamble to EPA's proposed PSD rule revisions on September 14, 2006:

> *That is, the source can emit up to its current maximum capacity without triggering major NSR under the actual-to-projected-actual test, as long as the increase is unrelated to the change. [Federal Register, Vol. 71, pg. 54237]*
>
> *Post-change emissions are generally projected using the emissions unit's maximum annual rate, in tons per year, at which it is expected to emit a regulated NSR pollutant within 5 years following a change, less any amount of emissions that the unit could have accommodated during the selected 24-month baseline period and that are unrelated to the change. This final "projected actual" value, in tons per year, is the value you compare to the "baseline actual emissions" in order to determine...whether the proposed project will result in a "significant" emissions increase, as defined in the first step of the calculation. [Federal Register, Vol. 71, pg. 54238]*

If the proposed modification results in a significant emissions increase for any PSD pollutant, then all contemporaneous increases or decreases in emissions of that pollutant that have occurred at the facility in the last 5 years must also be considered to determine if a significant net emissions increase has occurred.

A PSD applicability analysis was conducted to demonstrate that the proposed project would not trigger PSD review under FDEP PSD rules. The analysis is presented in Section 4.0.

3.1.2 EPA PSD Review Requirements for Greenhouse Gas Emissions

On December 15, 2009, EPA issued an endangerment finding related to GHGs declaring that the combination of six GHGs [carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)] endangers both the public health and welfare of current and future generations.[1] Specifically, EPA found that the combined emissions of these GHGs from new motor vehicles endangers the public health and welfare, which allows the federal regulation of GHGs from new motor vehicles. EPA finalized such regulations on April 1, 2010, in a joint rulemaking with the National Highway Traffic Safety Administration (NHTSA) [the "Light-Duty Vehicle Rule" (LDV Rule)], making the collection of six GHGs "subject to regulation" under the CAA.[2]

On April 2, 2010, EPA finalized its reconsideration of the memorandum issued by previous EPA Administrator Stephen Johnson titled, "EPA's Interpretation of Regulations that Determine Pollutants Covered by Federal Prevention of Significant Deterioration (PSD) Permit Program,"[3] also known as the "PSD Interpretive Memo". In the reconsideration, EPA decided to continue to interpret the term "subject to regulation" to include each pollutant subject to either a provision in the CAA or regulation adopted by EPA under the CAA that requires actual control of emissions of that pollutant.[4] As a result of this interpretation, GHGs became subject to CAA permitting requirements under the NSR program (specifically the PSD portion of the NSR program), on January 2, 2011, which was the date the first control requirements in the LDV Rule took effect for GHGs.

In an attempt to reduce the permitting burden associated with triggering NSR and Title V for GHGs, EPA finalized the PSD Tailoring Rule on June 3, 2010 to limit applicability of CAA requirements to large stationary sources of GHG emissions.[5] In the final rule, EPA creates multiple steps to implement the PSD Tailoring Rule, the first of which began January 2, 2011 (when the LDV Rule took effect) and ended on June 30, 2011, and applied to "anyway sources" and "anyway modifications" that would be subject to PSD "anyway" based on emissions of pollutants other than GHGs.

Step 2 of the PSD Tailoring Rule began July 1, 2011, and requires that GHG emissions associated with each project be evaluated for PSD applicability regardless of the level of criteria pollutant emission rate increases. Therefore, the Clewiston Facility must analyze GHG emissions under Step 2 of the PSD

[1] 74 Federal Register (FR) 66496 (December 15, 2009).
[2] 75 FR 25324 (May 7, 2010).
[3] Memorandum issued December 18, 2008 and noticed at 73 FR 80300 (December 31, 2008).
[4] 75 FR 17004 (April 2, 2010).
[5] 75 FR 31514 (June 3, 2010).

Tailoring Rule. In both Step 1 and Step 2 of the Tailoring Rule, PSD permitting for GHGs is triggered if both the following occur due to a proposed modification at an existing major PSD source:

- GHG emission increases are 75,000 TPY of carbon dioxide equivalents (CO_2e) or more
- Total mass-based GHG emission increases are greater than zero

On July 20, 2011, the EPA deferred reporting of CO_2 emissions from bioenergy and other biogenic sources under the PSD program for 3 years.[6] Therefore, CO_2 emissions from the combustion of bagasse and wood chips can be excluded from determining if PSD review is triggered. A PSD applicability analysis was conducted to demonstrate that the proposed project would not trigger PSD review under the PSD Tailoring Rule. The analysis is presented in Section 4.0.

3.2 New Source Performance Standards and NESHAP Applicability

There are no air emission sources located in the sugar refinery that are subject to any New Source Performance Standards (NSPS) or National Emission Standards for Hazardous Air Pollutants (NESHAP). The addition of a vacuum pan will not cause the refinery sources to be subject to any new NSPS or NESHAP.

[6] 76 FR 43490 (July 20, 2011).

4.0 AIR EMISSIONS

4.1 Baseline Actual Emissions

The methodology utilized in determining baseline actual annual average emissions for the affected units at the Clewiston Facility, and the results of the determination, are presented in this section. Based on Florida's PSD reform rules, the baseline actual emissions may be based on any consecutive 24-month period out of the last 10 years prior to submitting a complete application (2001 – 2010). Actual emissions for each of these years were determined based on operating data, available stack test data, and emission factors. For each pollutant, the consecutive 2-year period with the highest average annual (TPY) emissions was selected as the baseline actual emissions for the Clewiston Facility. Two different baseline scenarios were considered for this application:

- Scenario 1: Boiler Nos. 2 and 8 provide additional steam for the new vacuum pan during the off-season
- Scenario 2: Boiler Nos. 2 and 7 provide additional steam for the new vacuum pan during the off-season

The 2-year periods used for each pollutant are as follows:

Pollutant	2-Year Average Baseline	
	Scenario 1	Scenario 2
Sulfur Dioxide – SO_2	2008 to 2009	2008 to 2009
Nitrogen Oxides – NO_x	2008 to 2009	2002 to 2003
Carbon Monoxide – CO	2002 to 2003	2002 to 2003
Particulate Matter – PM	2002 to 2003	2002 to 2003
Particulate Matter under 10 microns in diameter – PM_{10}	2002 to 2003	2002 to 2003
Particulate Matter under 2.5 microns in diameter – $PM_{2.5}$	2002 to 2003	2002 to 2003
Volatile Organic Compounds – VOCs	2002 to 2003	2002 to 2003
Sulfuric Acid Mist – SAM	2008 to 2009	2008 to 2009
Lead – Pb	2006 to 2007	2002 to 2003
Mercury – Hg	2008 to 2009	2002 to 2003
Fluorides – F	2002 to 2003	2002 to 2003
Non-Biogenic Carbon Dioxide – CO_2	2005 to 2006	2005 to 2006
Methane – CH_4	2008 to 2009	2002 to 2003
Nitrous Oxide – N_2O	2008 to 2009	2002 to 2003

The baseline actual emissions for the Clewiston Facility may differ from the annual emissions shown in the Annual Operating Reports (AORs) submitted to FDEP by U.S. Sugar, for the reasons described below.

The emission factors used for determining the baseline actual emissions are shown in Tables A-1 and A-2 for Scenario 1, and in Tables B-1 and B-2 for Scenario 2. The Florida rules require that, if stack test data are used, the emission factor shall be based on the average emissions per unit of input, output, or gas

volume, whichever is appropriate, of all valid tests conducted during at least a 5-year period encompassing the period over which the emissions are computed, provided all stack tests used shall represent the same operational and physical configuration of the unit. To determine the operational and physical configuration of the Clewiston Facility for each year during the past 10 years, the permitting files were researched. It was concluded that the affected units (refinery sources and Boiler Nos. 2, 7, and 8) have had the same operational/physical configuration over all the years for which stack tests are used to determine the baseline emissions (2001 – 2010). The following sections describe in more detail the development of the baseline actual emissions for each PSD pollutant.

4.1.1 Sulfur Dioxide

Boiler No. 2 – Baseline actual SO_2 emissions were calculated based on fuel oil and bagasse firing (see Tables A-2 and B-2). No. 6 fuel oil was burned in Boiler No. 2 from 2001 through 2004; No. 2 fuel oil has been burned since 2005. The SO_2 emission factors used were:

- No. 6 Fuel Oil: 157(S) pounds per thousand gallons ($lb/10^3$ gal) based on AP-42, Table 1.3-1, where S is the sulfur content as reported in the AOR. The sulfur content was reduced to the current maximum permitted sulfur content of 0.05 percent (Permit No. 0510003-032-AV).
- No. 2 Fuel Oil: 139.6(S) $lb/10^3$ gal based on a stoichiometric conversion of 100 percent of the sulfur in the fuel converting to SO_2.
- Bagasse: 0.0056 pounds per million British thermal units (lb/MMBtu) based on the average of test data for Boiler No. 1 (EU 001) performed 12/8/2000 (0.0101 lb/MMBtu) and 2/7/2005 (0.0001 lb/MMBtu) and Boiler No. 4 (EU 009) performed 1/5/2000 (0.0002 lb/MMBtu) and 2/10/2005 (0.0120 lb/MMBtu).

The $lb/10^3$ gal emission factors were divided by the fuel oil heat content [150,000 British thermal units per gallon (Btu/gal) for No. 6 Fuel Oil; 138,000 Btu/gal for No. 2 Fuel Oil] in order to calculate lb/MMBtu emission units.

Boiler No. 7 – Baseline actual SO_2 emissions were calculated based on No. 2 fuel oil and bagasse firing (see Table B-2). The SO_2 emission factors used were:

- No. 2 Fuel Oil: 139.6(S) $lb/10^3$ gal based on a stoichiometric conversion of 100 percent of the sulfur in the fuel converting to SO_2. Emission factor was divided by heat content (138,000 Btu/gal) to calculate a lb/MMBtu emission factor.
- Bagasse: 0.0393 lb/MMBtu based on average test data for Boiler No. 7 (EU 014) performed 11/18/1997 (0.0140 lb/MMBtu), 2/4/2005 (0.0653 lb/MMBtu), and 1/24/2008 (0.0387 lb/MMBtu).

Boiler No. 8 – Baseline actual SO_2 emissions were calculated based on No. 2 fuel oil, bagasse, and wood/bark firing (see Table A-2). The SO_2 emission factors used were:

- No. 2 Fuel Oil: 139.6(S) lb/10^3 gal based on a stoichiometric conversion of 100 percent of the sulfur in the fuel converting to SO_2. Emission factor was divided by heat content (138,000 Btu/gal) to calculate a lb/MMBtu emission factor.
- Bagasse: 0.0299 lb/MMBtu based on the average of all stack tests since 2005 (see Table A-5).
- Wood/Bark: 0.025 lb/MMBtu based on AP-42, Table 1.6-2.

Refinery – The only refinery source that emits SO_2 is the granular carbon regeneration furnace (GCRF), which burns No. 2 fuel oil (see Tables A-2 and B-2). The SO_2 emission factor is the same as for the boilers.

Total Emissions – Using the annual fuel firing rates for the refinery and boilers for each year and the emission factors described above, the annual emissions for each year for the two scenarios were determined (see Tables A-8 and B-8). The 2-year annual average SO_2 emissions were then calculated (see Tables A-9 and B-9) and the highest 2-year average SO_2 emissions were selected as the baseline actual emissions (see Tables 4-1 and 4-2).

4.1.2 Nitrogen Oxides

Boiler No. 2 – Baseline actual NO_x emissions were calculated based on fuel oil and bagasse firing (see Tables A-2 and B-2). The NO_x emission factors used were:

- No. 6 Fuel Oil: 47 lb/10^3 gal based on AP-42, Table 1.3-1
- No. 2 Fuel Oil: 0.139 lb/MMBtu based on stack testing performed February 2006 for distillate oil firing
- Bagasse: 0.098 lb/MMBtu based on stack testing performed 3/1/1999 (0.099 lb/MMBtu) and 1/28/2000 (0.097 lb/MMBtu)

The lb/10^3 gal emission factors were divided by the fuel oil heat content (150,000 Btu/gal for No. 6 Fuel Oil) in order to calculate lb/MMBtu emission units.

Boiler No. 7 – Baseline actual NO_x emissions were calculated based on No. 2 fuel oil and bagasse firing (see Table B-2). The NO_x emission factors used were:

- No. 2 Fuel Oil: 24 lb/10^3 gal based on AP-42, Table 1.3-1. The emission factor was divided by heat content (138,000 Btu/gal) to calculate a lb/MMBtu emission factor.
- Bagasse: Ranged from 0.1957 lb/MMBtu to 0.2133 lb/MMBtu based on 5-year average test data (see Table B-5). The 5-year average is based on the average of the stack test performed that year and the previous 4 years.

Boiler No. 8 – Baseline actual NO_x emissions were calculated based on the annual average CEMS data (see Table A-5).

Refinery – The only refinery source that emits NO_x is the GCRF, which burns No. 2 fuel oil (see Tables A-2 and B-2). The NO_x emission factor of 0.2415 lb/MMBtu is based on manufacturer design specifications provided by BSP Thermal Systems, Inc. The factor is 3 lb/hr for NO_x, divided by 90 gallons per hour (gal/hr) fuel oil usage, and then divided by fuel heat content of 138,000 Btu/gal.

Total Emissions – Using the annual fuel firing rates for the GCRF and boilers for each year and the emission factors described above, the annual emissions for each year for the two scenarios were determined (see Tables A-8 and B-8). The 2-year annual average NO_x emissions were then calculated (see Tables A-9 and B-9) and the highest 2-year average NO_x emissions were selected as the baseline actual emissions (see Tables 4-1 and 4-2).

4.1.3 Carbon Monoxide

Boiler No. 2 – Baseline actual CO emissions were calculated based on fuel oil and bagasse firing (see Tables A-2 and B-2). The CO emission factors used were:

- No. 2/6 Fuel Oil: 5 lb/10^3 gal based on AP-42, Table 1.3-1
- Bagasse: 17.16 lb/MMBtu based on stack testing performed 3/1/1999 (15.53 lb/MMBtu) and 1/28/2000 (18.785 lb/MMBtu)

The lb/10^3 gal emission factors were divided by the fuel oil heat content (150,000 Btu/gal for No. 6 Fuel Oil; 138,000 Btu/gal for No. 2 Fuel Oil) in order to calculate lb/MMBtu emission units.

Boiler No. 7 – Baseline actual CO emissions were calculated based on No. 2 fuel oil and bagasse firing (see Table B-2). The CO emission factors used were:

- No. 2 Fuel Oil: 5 lb/10^3 gal based on AP-42, Table 1.3-1
- Bagasse: Ranged from 0.2219 lb/MMBtu to 0.3276 lb/MMBtu based on 5-year average test data (see Table B-5). The 5-year average is based on the average of the stack test performed that year and the previous 4 years.

Boiler No. 8 – Baseline actual CO emissions were calculated for all fuels based on the annual average CEMS data (see Table A-5).

Refinery – The only refinery source that emits CO is the GCRF, which burns No. 2 fuel oil (see Tables A-2 and B-2). The CO emission factor of 0.2415 lb/MMBtu is based on manufacturer design specifications provided by BSP Thermal Systems, Inc. The factor is 3 lb/hr for CO, divided by 90 gal/hr fuel oil usage, and then divided by fuel heat content of 138,000 Btu/gal.

Total Emissions – Using the annual fuel firing rates for the GCRF and boilers for each year and the emission factors described above, the annual emissions for each year for the two scenarios were determined (see Tables A-8 and B-8). The 2-year annual average CO emissions were then calculated (see Tables A-9 and B-9) and the highest 2-year average CO emissions were selected as the baseline actual emissions (see Tables 4-1 and 4-2).

4.1.4 $PM/PM_{10}/PM_{2.5}$

Boiler No. 2 – Baseline actual PM emissions were calculated based on fuel oil and bagasse firing (see Tables A-2 and B-2). The PM emission factors used were:

- No. 6 Fuel Oil: 9.19(S)+3.22 lb/10^3 gal based on AP-42, Table 1.3-1, where S is the sulfur content as reported in the AOR. The sulfur content was reduced to the current maximum permitted sulfur content of 0.05 percent (Permit No. 0510003-032-AV).
- No. 2 Fuel Oil: 2 lb/10^3 gal based on AP-42, Table 1.3-1.
- Bagasse: Ranged from 0.1391 lb/MMBtu to 0.2060 lb/MMBtu based on 5-year average test data (see Tables A-4 and B-4). The 5-year average is based on the average of the stack test performed that year and the previous 4 years.

The lb/10^3 gal emission factors were divided by the fuel oil heat content (150,000 Btu/gal for No. 6 Fuel Oil; 138,000 Btu/gal for No. 2 Fuel Oil) in order to calculate lb/MMBtu emission units.

Boiler No. 7 – Baseline actual PM emissions were calculated based on No. 2 fuel oil and bagasse firing (see Table B-2). The PM emission factors used were:

- No. 2 Fuel Oil: 2 lb/10^3 gal based on AP-42, Table 1.3-1.
- Bagasse: Ranged from 0.0116 lb/MMBtu to 0.0199 lb/MMBtu based on 5-year average test data (see Table B-5). The 5-year average is based on the average of the stack test performed that year and the previous 4 years.

Boiler No. 8 – Baseline actual PM emissions were calculated based on No. 2 fuel oil, bagasse, and wood/bark firing (see Table A-2). The PM emission factors used were:

- No. 2 Fuel Oil: 2 lb/10^3 gal based on AP-42, Table 1.3-1
- Bagasse: 0.0299 lb/MMBtu based on the average of all stack tests since 2005, the year the boiler began operating (see Table A-5)
- Wood/Bark: It is assumed that the PM emissions from wood/bark combustion are the same as for bagasse

Refinery – The PM emission sources in the refinery are the GCRF (EU 017), White Sugar Dryer Nos. 1 and 2 (EUs 016 and 029), Vacuum Systems (EU 018), Conditioning Silos (EU 019), Sugar/Starch Bins (EU 020), and Sugar Packaging (EU 022). The emission factors for these sources are:

- GCRF – 0.4413 lb/hr is based on the average of stack tests performed 1/20/2000 (0.40 lb/hr), 9/29/2005 (0.386 lb/hr), and 4/27/2011 (0.538 lb/hr)

- White Sugar Dryer No. 1 – 1.63 lb/hr based on the maximum permitted emission rate (Permit No. 0510003-032-AV)
- Vacuum Systems – 0.18 lb/hr based on the maximum permitted emission rate (Permit No. 0510003-032-AV)
- Conditioning Silos – 0.18 lb/hr based on the maximum permitted emission rate (Permit No. 0510003-032-AV)
- Sugar/Starch Bins – 0.25 lb/hr based on the maximum permitted emission rate (Permit No. 0510003-032-AV)
- Sugar Packaging – 0.21 lb/hr based on the maximum permitted emission rate (Permit No. 0510003-032-AV)
- White Sugar Dryer No. 2 – 0.0838 lb/ton sugar based on the average of stack tests performed in February 2007, the only valid tests available (see Tables A-3 and B-3)

The PM_{10} and $PM_{2.5}$ emissions from all emissions sources are based on a percentage of PM emissions, except for the White Sugar Dryer No. 2, which has PM_{10} emissions stack test results. The PM_{10} emission factors are:

- Boiler No. 2 No. 6 Fuel Oil – 62 percent of PM emissions based on AP-42, Table 1.3-7
- Boiler No. 2 No. 2 Fuel Oil – 55 percent of PM emissions based on AP-42, Table 1.3-7
- Boiler No. 2 Bagasse – 93 percent of PM emissions based on historical assumption
- Boiler No. 7 No. 2 Fuel Oil – 55 percent of PM emissions based on AP-42, Table 1.3-7
- Boiler No. 7 Bagasse – 93 percent of PM emissions based on historical assumption
- Boiler No. 8 No. 2 Fuel Oil – 55 percent of PM emissions based on AP-42, Table 1.3-7
- Boiler No. 8 Bagasse – 100 percent of PM emissions based on a conservative assumption
- Boiler No. 8 Wood/Bark – 100 percent of PM emissions based on a conservative assumption
- GCRF – 100 percent of PM emissions based on a conservative assumption
- White Sugar Dryer No. 1 – 100 percent of PM emissions based on a conservative assumption
- Vacuum Systems – 100 percent of PM emissions based on a conservative assumption
- Conditioning Silos – 100 percent of PM emissions based on a conservative assumption
- Sugar/Starch Bins – 100 percent of PM emissions based on a conservative assumption
- Sugar Packaging – 100 percent of PM emissions based on a conservative assumption
- White Sugar Dryer No. 2 – 0.0223 lb/ton sugar based on the average of stack tests performed in February 2007 (see Tables A-3 and B-3)

The $PM_{2.5}$ emission factors are:

- Boiler No. 2 No. 6 Fuel Oil – 23 percent of PM emissions based on AP-42, Table 1.3-7
- Boiler No. 2 No. 2 Fuel Oil – 42 percent of PM emissions based on AP-42, Table 1.3-7
- Boiler No. 2 Bagasse – 65 percent of PM emissions based on historical assumption

- Boiler No. 7 No. 2 Fuel Oil – 42 percent of PM emissions based on AP-42, Table 1.3-7
- Boiler No. 7 Bagasse – 65 percent of PM emissions based on historical assumption
- Boiler No. 8 No. 2 Fuel Oil – 42 percent of PM emissions based on AP-42, Table 1.3-7
- Boiler No. 8 Bagasse – 65 percent of PM emissions based on a conservative assumption
- Boiler No. 8 Wood/Bark – 65 percent of PM emissions based on a conservative assumption
- GCRF – 100 percent of PM emissions based on a conservative assumption
- White Sugar Dryer No. 1 – 100 percent of PM emissions based on a conservative assumption
- Vacuum Systems – 100 percent of PM emissions based on a conservative assumption
- Conditioning Silos – 100 percent of PM emissions based on a conservative assumption
- Sugar/Starch Bins – 100 percent of PM emissions based on a conservative assumption
- Sugar Packaging – 100 percent of PM emissions based on a conservative assumption
- White Sugar Dryer No. 2 – 100 percent of PM_{10} emissions based on a conservative assumption

Total Emissions – Using the annual fuel firing rates, operating rates, and hours of operation for the refinery and boilers for each year and the emission factors described above, the annual emissions for each year for the two scenarios were determined (see Tables A-8 and B-8). The 2-year annual average $PM/PM_{10}/PM_{2.5}$ emissions were then calculated (see Tables A-9 and B-9) and the highest 2-year average $PM/PM_{10}/PM_{2.5}$ emissions were selected as the baseline actual emissions (see Tables 4-1 and 4-2).

4.1.5 Volatile Organic Compounds

Boiler No. 2 – Baseline actual VOC emissions were calculated based on fuel oil and bagasse firing (see Tables A-2 and B-2). The VOC emission factors used were:

- No. 6 Fuel Oil: 0.28 lb/10^3 gal based on AP-42, Table 1.3-3
- No. 2 Fuel Oil: 0.20 lb/10^3 gal based on AP-42, Table 1.3-3
- Bagasse: 2.004 lb/MMBtu based on stack testing performed 3/1/1999 (1.730 lb/MMBtu) and 1/28/2000 (2.278 lb/MMBtu)

The lb/10^3 gal emission factors were divided by the fuel oil heat content (150,000 Btu/gal for No. 6 Fuel Oil; 138,000 Btu/gal for No. 2 Fuel Oil) in order to calculate lb/MMBtu emission units.

Boiler No. 7 – Baseline actual VOC emissions were calculated based on No. 2 fuel oil and bagasse firing (see Table B-2). The VOC emission factors used were:

- No. 2 Fuel Oil: 0.20 lb/10^3 gal based on AP-42, Table 1.3-3.
- Bagasse: Ranged from 0.0043 lb/MMBtu to 0.0344 lb/MMBtu based on 5-year average test data (see Table B-5). The 5-year average is based on the average of the stack test performed that year and the previous 4 years.

Boiler No. 8 – Baseline actual VOC emissions were calculated based on No. 2 fuel oil, bagasse, and wood/bark firing (see Table A-2). The VOC emission factors used were:

- No. 2 Fuel Oil: 0.20 lb/10^3 gal based on AP-42, Table 1.3-3
- Bagasse: 0.0226 lb/MMBtu based on the average of all stack tests since 2005 (see Table A-5)
- Wood/Bark: 0.017 lb/MMBtu based on AP-42 Table 1.6-3.

Refinery – The only refinery sources that emit VOC are the GCRF, which burns No. 2 fuel oil, and the alcohol usage emissions unit (see Tables A-1, A-2, B-1, and B-2). The VOC emission factor for the GCRF of 0.3279 lb/hr is based on the average of stack tests performed 1/20/2000 (0.50 lb/hr), 9/29/2005 (0.0927 lb/hr), and 4/27/2011 (0.391 lb/hr). The alcohol emission factor, which ranged from 1,439 lb/yr to 7,913 lb/yr, is based on the total alcohol used during the year and an assumption that it is all emitted to the atmosphere.

Total Emissions – Using the annual fuel firing rates for the refinery sources and boilers for each year and the emission factors described above, the annual emissions for each year for the two scenarios were determined (see Tables A-8 and B-8). The 2-year annual average VOC emissions were then calculated (see Tables A-9 and B-9) and the highest 2-year average VOC emissions were selected as the baseline actual emissions (see Tables 4-1 and 4-2).

4.1.6 Sulfuric Acid Mist

SAM emissions can be estimated from a method similar to fuel oil combustion where the ratio of sulfur trioxide (SO_3) to SO_2 emissions from AP-42, Table 1.3-1 (5.7/157) is used, and then multiplied by the ratio of the molecular weight of sulfuric acid (H_2SO_4) to SO_3 (98/80). The resulting SAM emission factor is approximately 4.45 percent of the SO_2 emission factor (see Tables A-2 and B-2).

Using the annual SO_2 emission factors and the 4.45 percent factor, the annual SAM emissions for each year were determined (see Tables A-8 and B-8). The 2-year annual average SAM emissions were then calculated (see Tables A-9 and B-9) and the highest 2-year average SAM emissions were selected as the baseline actual emissions (see Tables 4-1 and 4-2).

4.1.7 Lead

Boiler No. 2 – Baseline actual Pb emissions were calculated based on fuel oil and bagasse firing (see Tables A-2 and B-2). The Pb emission factors used were:

- No. 6 Fuel Oil: 0.00151 lb/10^3 gal based on AP-42, Table 1.3-11
- No. 2 Fuel Oil: 9×10^{-6} lb/MMBtu based on AP-42, Table 1.3-10
- Bagasse: 3.08×10^{-5} lb/MMBtu based on average values reported for metals analysis for bagasse for U.S. Sugar

The lb/10^3 gal emission factor was divided by the fuel oil heat content (150,000 Btu/gal for No. 6 Fuel Oil) in order to calculate lb/MMBtu emission units.

Boiler No. 7 – Baseline actual Pb emissions were calculated based on No. 2 fuel oil and bagasse firing (see Table B-2). The Pb emission factors used were:

- No. 2 Fuel Oil: $9x10^{-6}$ lb/MMBtu based on AP-42, Table 1.3-10
- Bagasse: $3.08x10^{-5}$ lb/MMBtu based on average values reported for metals analysis for bagasse for U.S. Sugar

Boiler No. 8 – Baseline actual Pb emissions were calculated based on No. 2 fuel oil, bagasse, and wood/bark firing (see Table A-2). The Pb emission factors used were:

- No. 2 Fuel Oil: $9x10^{-6}$ lb/MMBtu based on AP-42, Table 1.3-10
- Bagasse: $3.08x10^{-5}$ lb/MMBtu based on average values reported for metals analysis for bagasse for U.S. Sugar
- Wood/Bark: $8.1x10^{-4}$ lb/MMBtu based on average values reported for metals analysis for wood chips

Refinery – The only refinery source that emits Pb is the GCRF, which burns No. 2 fuel oil (see Tables A-2 and B-2). The Pb emission factor of $9x10^{-6}$ lb/MMBtu is based on AP-42, Table 1.3-10.

Total Emissions – Using the annual fuel firing rates for the Clewiston Facility for each year and the emission factors described above, the annual emissions for each year for the two scenarios were determined (see Tables A-8 and B-8). The 2-year annual average Pb emissions were then calculated (see Tables A-9 and B-9) and the highest 2-year average Pb emissions were selected as the baseline actual emissions (see Tables 4-1 and 4-2).

4.1.8 Mercury

Boiler No. 2 – Baseline actual Hg emissions were calculated based on fuel oil and bagasse firing (see Tables A-2 and B-2). The Hg emission factors used were:

- No. 6 Fuel Oil: 0.000113 lb/10^3 gal based on AP-42, Table 1.3-11
- No. 2 Fuel Oil: $3x10^{-6}$ lb/MMBtu based on AP-42, Table 1.3-10
- Bagasse: $4.6x10^{-6}$ lb/MMBtu based on average values reported for metals analysis for bagasse for U.S. Sugar

The lb/10^3 gal emission factor was divided by the fuel oil heat content (150,000 Btu/gal for No. 6 Fuel Oil) in order to calculate lb/MMBtu emission units.

Boiler No. 7 – Baseline actual Hg emissions were calculated based on No. 2 fuel oil and bagasse firing (see Table B-2). The Hg emission factors used were:

- No. 2 Fuel Oil: $3x10^{-6}$ lb/MMBtu based on AP-42, Table 1.3-10
- Bagasse: $4.6x10^{-6}$ lb/MMBtu based on average values reported for metals analysis for bagasse

Boiler No. 8 – Baseline actual Hg emissions were calculated based on No. 2 fuel oil, bagasse, and wood/bark firing (see Table A-2). The Hg emission factors used were:

- No. 2 Fuel Oil: $3x10^{-6}$ lb/MMBtu based on AP-42, Table 1.3-10
- Bagasse: $4.6x10^{-6}$ lb/MMBtu based on average values reported for metals analysis for bagasse
- Wood/Bark: $3.5x10^{-6}$ lb/MMBtu based on AP-42, Table 1.6-4

Refinery – The only refinery source that emits Hg is the GCRF, which burns No. 2 fuel oil (see Tables A-2 and B-2). The Hg emission factor of $3x10^{-6}$ lb/MMBtu is based on AP-42, Table 1.3-10.

Total Emissions – Using the annual fuel firing rates for the Clewiston Facility for each year and the emission factors described above, the annual emissions for each year for the two scenarios were determined (see Tables A-8 and B-8). The 2-year annual average Hg emissions were then calculated (see Tables A-9 and B-9) and the highest 2-year average Hg emissions were selected as the baseline actual emissions (see Tables 4-1 and 4-2).

4.1.9 Fluoride

The only fluoride emission factor that exists for any of the emissions units affected by the proposed project is for No. 6 fuel oil combustion. This emission factor, which was applied to Boiler No. 2, is 0.0373 lb/10^3 gal based on AP-42, Table 1.3-11.

Using the annual No. 6 fuel oil firing rate for Boiler No. 2 for each year and the emission factor described above, the annual emissions for each year for the two scenarios were determined (see Tables A-8 and B-8). The 2-year annual average Hg emissions were then calculated (see Tables A-9 and B-9) and the highest 2-year average Hg emissions were selected as the baseline actual emissions (see Tables 4-1 and 4-2).

4.1.10 Greenhouse Gases

The GHGs emitted by the Clewiston Facility consist of CO_2, CH_4, and N_2O. Baseline actual GHG emissions from the affected emissions units were determined using the annual fuel oil, bagasse, and wood/bark firing rates and the GHG emission factors set forth in EPA's Mandatory Reporting Rule for GHGs (GHG MRR) in Subpart C, Tables C-1 and C-2 for CO_2, CH_4 and N_2O, with the exception of CO_2

from bagasse burning. The CO_2 emissions from bagasse burning were based on an analysis of the carbon content of the bagasse, and an assumption that all of the carbon in the bagasse becomes CO_2.

The GHG emission factors used are:

- No. 6 Fuel Oil: CO_2 – 165.57 lb/MMBtu; CH_4 – 0.0066 lb/MMBtu; N_2O – 0.0013 lb/MMBtu
- No. 2 Fuel Oil: CO_2 – 163.05 lb/MMBtu; CH_4 – 0.0066 lb/MMBtu; N_2O – 0.0013 lb/MMBtu
- Bagasse: CO_2 – 234.26 lb/MMBtu (based on 23-percent carbon content); CH_4 – 0.0705 lb/MMBtu; N_2O – 0.0093 lb/MMBtu
- Wood/Bark: CO_2 – 206.79 lb/MMBtu; CH_4 – 0.0705 lb/MMBtu; N_2O – 0.0093 lb/MMBtu

Using the annual fuel firing rates for the GCRF and boilers for each year and the emission factors described above, the annual emissions for each year for the two scenarios were determined (see Tables A-8 and B-8). The 2-year annual average Hg emissions were then calculated (see Tables A-9 and B-9) and the highest 2-year average Hg emissions were selected as the baseline actual emissions (see Tables 4-1 and 4-2).

4.2 Projected Actual Emissions

"Projected actual emissions" for the emissions units affected by the proposed project were developed considering the Mill's projected future operation of the sugar refinery based on expected business projections of future market conditions and the expected steam demand increase due to the new vacuum pan. As stated earlier, the addition of the fifth vacuum pan in the refinery will require an increase in steam production during the sugarcane processing off-season. The two scenarios considered in this application are:

- Scenario 1 – Boiler No. 8 produces additional steam during the off-season with Boiler No. 2 providing backup for 30 days each off-season
- Scenario 2 – Boiler No. 7 produces additional steam during the off-season with Boiler No. 2 providing backup for 30 days each off-season

An annual activity factor for each boiler was first determined without considering an increase in steam production. This activity factor was based on the highest annual heat input rate to each boiler since 2005 (when the Clewiston Facility refinery was expanded and Boiler No. 8 began operating). The annual heat input rates to each boiler, shown in Tables A-7 and B-7, are:

- Boiler No. 2: 1,350,829 MMBtu
- Boiler No. 7: 3,326,031 MMBtu
- Boiler No. 8: 4,838,582 MMBtu (the heat input in 2008 abnormally high, and not consistent with current operation)

The increase in hourly heat input to each boiler was then determined by multiplying the highest observed annual steam enthalpies (Btu/lb steam) for each boiler (see Tables A-7 and B-7) by the maximum increase in steam production (36,000 lb/hr). The sugar cane crop off-season runs for approximately a maximum of 3,700 hr/yr. If Boiler No. 2 provides steam as a backup to Boiler Nos. 7 or 8 for 30 days per year (720 hr/yr), this results in an annual increase of 54,969 MMBtu. Boiler Nos. 7 or 8 are then assumed to provide the additional steam for the other 2,980 hr/yr, resulting in increases in annual heat input rates of 227,152 MMBtu for Boiler No. 7 and 201,984 MMBtu for Boiler No. 8. These increases in heat input are calculated as follows:

- Boiler No. 2: 36,000 lb/hr x 720 hr x 2,121 Btu/lb x 1 MMBtu/10^6 Btu = 54,969 MMBtu
- Boiler No. 7: 36,000 lb/hr x 2,980 hr x 2,117 Btu/lb x 1 MMBtu/10^6 Btu = 227,152 MMBtu
- Boiler No. 8: 36,000 lb/hr x 2,980 hr x 1,883 Btu/lb x 1 MMBtu/10^6 Btu = 201,984 MMBtu

Activity factors for the refinery operations are based on an expected increase of approximately 180 TPD of sugar production, or approximately 10 percent. A 180-TPD increase in sugar production would bring the production of the refinery to approximately 96 percent of its current maximum permitted sugar production rate of 803,000 TPY of sugar. As a result, the projected actual activity factors for the refinery were based at 803,000 TPY sugar, or 8,760 hr/yr operation. Sugar production is equally split between the two white sugar dryers.

The projected actual emissions are then calculated using the activity factors described above, and the activity factors that would produce the highest emissions scenarios for each pollutant, depending on the past percentages of heat input from each fuel burned in that unit (see Tables 4-3 and Tables 4-4).

4.3 Effects on Other Emissions Units

No other emissions units at the Clewiston Facility will be affected by this project. No increase in emissions from other emissions units will result from the proposed modifications to the Clewiston Facility.

4.4 PSD Review

The net increase in emissions due to the addition of the fifth vacuum pan for each scenario are summarized in Tables 4-5 and 4-6. As shown in these tables, no emission increases exceed the PSD significant emissions rate. Therefore, PSD review does not apply to the proposed project.

TABLES

Table 3-1. National and State AAQS, Allowable PSD Increments, and Significant Impact Levels

Pollutant	Averaging Time	AAQS (mg/m^3) National Primary [a]	AAQS (mg/m^3) National Secondary [a]	AAQS (mg/m^3) Florida [a]	PSD Increments (mg/m^3) Class I [a]	PSD Increments (mg/m^3) Class II [a]	Significant Impact Levels (mg/m^3) [b]
SO_2	Annual Arithmetic Mean	80	NA	80	2	20	1
	24-Hour Maximum	365	NA	365	5	91	5
	3-Hour Maximum	NA	1,300	1,300	25	512	25
	1-Hour Maximum [d]	196	NA	NA	NA	NA	NA
PM_{10} [c]	Annual Arithmetic Mean	NA	NA	50	4	17	1
	24-Hour Maximum	150	150	150	8	30	5
$PM_{2.5}$ [c]	Annual Arithmetic Mean	15	15	15	NA	NA	NA
	24-Hour Maximum	35	35	35	NA	NA	NA
NO_2	Annual Arithmetic Mean	100	100	100	2.5	25	1
	1-Hour Maximum [d]	188	NA	NA	NA	NA	NA
CO	8-Hour Maximum	10,000	10,000	10,000	NA	NA	500
	1-Hour Maximum	40,000	40,000	40,000	NA	NA	2,000
Ozone [c]	8-Hour Maximum	157	157	157	NA	NA	NA
Lead	Calendar Quarter	1.5	1.5	1.5	NA	NA	NA

Note:

Particulate matter (PM_{10}) = particulate matter with aerodynamic diameter less than or equal to 10 micrometers.

Particulate matter ($PM_{2.5}$) = particulate matter with aerodynamic diameter less than or equal to 2.5 micrometers.

NA = Not applicable, i.e., no standard exists.

[a] Short-term maximum concentrations are not to be exceeded more than once per year, except where noted.

[b] Maximum concentrations, which if exceeded, may require additional review. Significant impact levels for $PM_{2.5}$ are proposed but not final. Significant impact level for 1-hour average NO_2 is not yet proposed.

[c] On March 27, 2008, EPA promulgated revised AAQS for particulate matter and ozone. The ozone standard was modified to be 0.075 ppm (147 $\mu g/m^3$); achieved when 3-year average of 4th highest value is 0.075 ppm or less. On October 17, 2006, the $PM_{2.5}$ standards were finalized: 24-hour standard of 35 mg/m^3 (3-year average of 98th percentile) and annual standard of 15 $\mu g/m^3$ (3-year average at community monitors). The annual PM_{10} AAQS was revoked.

[d] On February 9, 2010, the 1-hour average NO_2 standard was finalized, which is 100 ppb or 188 $\mu g/m^3$ (3-year average 98th percentile). On June 2, 2010, the 1-hour average SO_2 standard was finalized, which is 75 ppb or 196 $\mu g/m^3$ (3-year average 99th percentile).

Sources:

Federal Register, Vol. 43, No. 118, June 19, 1978.

40 CFR 50; 40 CFR 52.21. GEPD Rules for Air Quality Control, Florida Chapter 62.204, F.A.C.

Table 3-2. PSD Significant Emission Rates and *De Minimis* Monitoring Concentrations

Pollutant	Regulated Under	Significant Emission Rate (TPY)	De Minimis Monitoring Concentration ($\mu g/m^3$) [a]
Sulfur Dioxide	NAAQS, NSPS	40	13, 24-hour
Particulate Matter [PM(TSP)]	NSPS	25	NA
Particulate Matter (PM_{10})	NAAQS	15	10, 24-hour
Particulate Matter ($PM_{2.5}$) [c]	NAAQS	10, or	NA
	NAAQS	40 of SO_2, or	NA
	NAAQS	40 of NO_x	NA
Nitrogen Dioxide	NAAQS, NSPS	40	14, annual
Carbon Monoxide	NAAQS, NSPS	100	575, 8-hour
Volatile Organic Compounds (Ozone)	NAAQS, NSPS	40	100 TPY[b]
Lead	NAAQS	0.6	0.1, 3-month
Sulfuric Acid Mist	NSPS	7	NM
Total Fluorides	NSPS	3	0.25, 24-hour
Total Reduced Sulfur	NSPS	10	10, 1-hour
Reduced Sulfur Compounds	NSPS	10	10, 1-hour
Hydrogen Sulfide	NSPS	10	0.2, 1-hour
Mercury	NESHAP	0.1	0.25, 24-hour
MWC Organics (dioxin/furans)	NSPS	3.5×10^{-6}	NM
MWC Metals (as PM)	NSPS	15	NM
MWC Acid Gases (SO_2 + HCl)	NSPS	40	NM
MSW Landfill Gases (as NMOC)	NSPS	50	NM
Greenhouse Gases [d]	--	0 (mass basis), and	NM
	--	75,000 (CO_2e basis)	NM

Note: Ambient monitoring requirements for any pollutants may be exempted if the impact of the increase is less than *de minimis* monitoring concentrations.

NA = not applicable
NM = no ambient measurement method established; therefore, no *de minimis* concentration has been established
mg/m^3 = micrograms per cubic meter
MWC = municipal waste combustor
MSW = municipal solid waste
NMOC = non-methane organic compounds

[a] Short-term concentrations are not to be exceeded

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

[c] Any emission rate of these pollutants.

[d] On July 20, 2011, biogenic CO_2 emissions were deferred from consideration in the significant emission rates for three years.

Source: 40 CFR 52.21
Rule 62-212.400, F.A.C.

Table 4-1: Scenario 1 - Detail of Baseline Actual Annual Emissions

Source Description	Year 1 Activity Factor	Year 1 Emission Factor	Year 1 Emissions (TPY) [a]	Year 2 Activity Factor	Year 2 Emission Factor	Year 2 Emissions (TPY) [a]	2-Year Average (TPY)
Sulfur Dioxide - SO_2	**2008**			**2009**			**'08 - '09**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	14,327 MMBtu	0.0007 lb/MMBtu	0.0051	9,537 MMBtu	0.0405 lb/MMBtu	0.19	**0.10**
- Bagasse	1,112,810 MMBtu	0.0056 lb/MMBtu	3.12	768,362 MMBtu	0.0056 lb/MMBtu	2.15	**2.63**
Boiler No. 8 (EU 028)							
- No. 2 Fuel Oil	56,145 MMBtu	0.0007 lb/MMBtu	0.020	34,107 MMBtu	0.0405 lb/MMBtu	0.69	**0.36**
- Bagasse	5,537,606 MMBtu	0.0299 lb/MMBtu	82.91	4,471,358 MMBtu	0.0299 lb/MMBtu	66.95	**74.93**
- Wood/Bark	-- MMBtu	0.0250 lb/MMBtu	--	222,822 MMBtu	0.0250 lb/MMBtu	2.79	**1.39**
GCRF - No. 2 Fuel Oil (EU 017)	45,909 MMBtu	0.0007 lb/MMBtu	0.016	45,973 MMBtu	0.0405 lb/MMBtu	0.93	**0.47**
						Total	**79.88**
Nitrogen Oxides - NO_x	**2008**			**2009**			**'08 - '09**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	14,327 MMBtu	0.1390 lb/MMBtu	1.00	9,537 MMBtu	0.1390 lb/MMBtu	0.66	**0.83**
- Bagasse	1,112,810 MMBtu	0.0980 lb/MMBtu	54.53	768,362 MMBtu	0.0980 lb/MMBtu	37.65	**46.09**
Boiler No. 8 (EU 028)							
- No. 2 Fuel Oil	56,145 MMBtu	0.1251 lb/MMBtu	3.51	34,107 MMBtu	0.1275 lb/MMBtu	2.18	**2.84**
- Bagasse	5,537,606 MMBtu	0.1251 lb/MMBtu	346.50	4,471,358 MMBtu	0.1275 lb/MMBtu	285.14	**315.82**
- Wood/Bark	-- MMBtu	0.1251 lb/MMBtu	--	222,822 MMBtu	0.1275 lb/MMBtu	14.21	**7.10**
GCRF - No. 2 Fuel Oil (EU 017)	45,909 MMBtu	0.2415 lb/MMBtu	5.54	45,973 MMBtu	0.2415 lb/MMBtu	5.55	**5.55**
						Total	378.24
Carbon Monoxide - CO	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	0.0333 lb/MMBtu	1.83	80,961 MMBtu	0.0333 lb/MMBtu	1.35	**1.59**
- Bagasse	1,622,657 MMBtu	17.1575 lb/MMBtu	13,920	1,559,088 MMBtu	17.1575 lb/MMBtu	13,375	**13,648**
Boiler No. 8 (EU 028)							
- No. 2 Fuel Oil	-- MMBtu	-- lb/MMBtu	--	-- MMBtu	-- lb/MMBtu	--	**--**
- Bagasse	-- MMBtu	-- lb/MMBtu	--	-- MMBtu	-- lb/MMBtu	--	**--**
- Wood/Bark	-- MMBtu	-- lb/MMBtu	--	-- MMBtu	-- lb/MMBtu	--	**--**
GCRF - No. 2 Fuel Oil (EU 017)	40,078 MMBtu	0.2415 lb/MMBtu	4.84	39,417 MMBtu	0.2415 lb/MMBtu	4.76	**4.80**
						Total	**13,654**
Particulate Matter Total - PM	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	0.0245 lb/MMBtu	1.35	80,961 MMBtu	0.0245 lb/MMBtu	0.99	**1.17**
- Bagasse	1,622,657 MMBtu	0.1948 lb/MMBtu	158.07	1,559,088 MMBtu	0.2060 lb/MMBtu	160.59	**159.33**
Boiler No. 8 (EU 028)							
- No. 2 Fuel Oil	-- MMBtu	-- lb/MMBtu	--	-- MMBtu	-- lb/MMBtu	--	**--**
- Bagasse	-- MMBtu	-- lb/MMBtu	--	-- MMBtu	-- lb/MMBtu	--	**--**
- Wood/Bark	-- MMBtu	-- lb/MMBtu	--	-- MMBtu	-- lb/MMBtu	--	**--**
GCRF - No. 2 Fuel Oil (EU 017)	5,928 hr/yr	0.44 lb/hr	1.31	7,584 hr/yr	0.44 lb/hr	1.67	**1.49**
White Sugar Dryer No. 1 (EU 016)	7,416 hr/yr	1.63 lb/hr	6.04	7,848 hr/yr	1.63 lb/hr	6.40	**6.22**
Vacuum Systems (EU 018)	7,416 hr/yr	0.18 lb/hr	0.67	7,848 hr/yr	0.18 lb/hr	0.71	**0.69**
Conditioning Silos (EU 019)	8,760 hr/yr	0.18 lb/hr	0.79	8,760 hr/yr	0.18 lb/hr	0.79	**0.79**
Sugar/Starch Bins (EU 020)	7,416 hr/yr	0.25 lb/hr	0.93	8,760 hr/yr	0.25 lb/hr	1.10	**1.01**
Sugar Packaging (EU 022)	7,416 hr/yr	0.21 lb/hr	0.78	8,760 hr/yr	0.21 lb/hr	0.92	**0.85**
White Sugar Dryer No. 2 (EU 029)	-- --	-- --	--	-- --	-- --	--	--
						Total	**171.55**
Particulate Matter - PM_{10}	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	0.0152 lb/MMBtu	0.84	80,961 MMBtu	0.0152 lb/MMBtu	0.62	**0.73**
- Bagasse	1,622,657 MMBtu	0.1812 lb/MMBtu	147.00	1,559,088 MMBtu	0.1916 lb/MMBtu	149.35	**148.18**
Boiler No. 8 (EU 028)							
- No. 2 Fuel Oil	-- MMBtu	-- lb/MMBtu	--	-- MMBtu	-- lb/MMBtu	--	**--**
- Bagasse	-- MMBtu	-- lb/MMBtu	--	-- MMBtu	-- lb/MMBtu	--	**--**
- Wood/Bark	-- MMBtu	-- lb/MMBtu	--	-- MMBtu	-- lb/MMBtu	--	**--**
GCRF - No. 2 Fuel Oil (EU 017)	5,928 hr/yr	0.44 lb/hr	1.31	7,584 hr/yr	0.44 lb/hr	1.67	**1.49**
White Sugar Dryer No. 1 (EU 016)	7,416 hr/yr	1.63 lb/hr	6.04	7,848 hr/yr	1.63 lb/hr	6.40	**6.22**
Vacuum Systems (EU 018)	7,416 hr/yr	0.18 lb/hr	0.67	7,848 hr/yr	0.18 lb/hr	0.71	**0.69**
Conditioning Silos (EU 019)	8,760 hr/yr	0.18 lb/hr	0.79	8,760 hr/yr	0.18 lb/hr	0.79	**0.79**
Sugar/Starch Bins (EU 020)	7,416 hr/yr	0.25 lb/hr	0.93	8,760 hr/yr	0.25 lb/hr	1.10	**1.01**
Sugar Packaging (EU 022)	7,416 hr/yr	0.21 lb/hr	0.78	8,760 hr/yr	0.21 lb/hr	0.92	**0.85**
White Sugar Dryer No. 2 (EU 029)	-- --	-- --	--	-- --	-- --	--	--
						Total	**159.95**
Particulate Matter - $PM_{2.5}$	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	0.0056 lb/MMBtu	0.31	80,961 MMBtu	0.0056 lb/MMBtu	0.23	**0.27**
- Bagasse	1,622,657 MMBtu	0.1266 lb/MMBtu	102.74	1,559,088 MMBtu	0.1339 lb/MMBtu	104.39	**103.56**
Boiler No. 8 (EU 028)							
- No. 2 Fuel Oil	-- MMBtu	-- lb/MMBtu	--	-- MMBtu	-- lb/MMBtu	--	**--**
- Bagasse	-- MMBtu	-- lb/MMBtu	--	-- MMBtu	-- lb/MMBtu	--	**--**
- Wood/Bark	-- MMBtu	-- lb/MMBtu	--	-- MMBtu	-- lb/MMBtu	--	**--**
GCRF - No. 2 Fuel Oil (EU 017)	5,928 hr/yr	0.44 lb/hr	1.31	7,584 hr/yr	0.441 lb/hr	1.67	**1.49**
White Sugar Dryer No. 1 (EU 016)	7,416 hr/yr	1.63 lb/hr	6.04	7,848 hr/yr	1.63 lb/hr	6.40	**6.22**
Vacuum Systems (EU 018)	7,416 hr/yr	0.18 lb/hr	0.67	7,848 hr/yr	0.18 lb/hr	0.71	**0.69**
Conditioning Silos (EU 019)	8,760 hr/yr	0.18 lb/hr	0.79	8,760 hr/yr	0.18 lb/hr	0.79	**0.79**
Sugar/Starch Bins (EU 020)	7,416 hr/yr	0.25 lb/hr	0.93	8,760 hr/yr	0.25 lb/hr	1.10	**1.01**
Sugar Packaging (EU 022)	7,416 hr/yr	0.21 lb/hr	0.78	8,760 hr/yr	0.21 lb/hr	0.92	**0.85**
White Sugar Dryer No. 2 (EU 029)	-- --	-- --	--	-- --	-- --	--	--
						Total	**114.88**
Volatile Organic Compounds - VOC	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	0.0019 lb/MMBtu	0.10	80,961 MMBtu	0.0019 lb/MMBtu	0.076	**0.089**
- Bagasse	1,622,657 MMBtu	2.0040 lb/MMBtu	1,626	1,559,088 MMBtu	2.0040 lb/MMBtu	1,562	**1,594**
Boiler No. 8 (EU 028)							
- No. 2 Fuel Oil	-- MMBtu	-- lb/MMBtu	--	-- MMBtu	-- lb/MMBtu	--	**--**
- Bagasse	-- MMBtu	-- lb/MMBtu	--	-- MMBtu	-- lb/MMBtu	--	**--**
- Wood/Bark	-- MMBtu	-- lb/MMBtu	--	-- MMBtu	-- lb/MMBtu	--	**--**
GCRF - No. 2 Fuel Oil (EU 017)	40,078 MMBtu	0.328 lb/MMBtu	6.57	39,417 MMBtu	0.328 lb/MMBtu	6.46	**6.52**
Alcohol Usage (EU 021)	6,834 lb alcohol	-- --	3.42	5,755 lb alcohol	-- --	2.88	**3.15**
						Total	**1,604**
Sulfuric Acid Mist - SAM	**2008**			**2009**			**'08 - '09**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	14,327 MMBtu	3.19E-05 lb/MMBtu	2.29E-04	9,537 MMBtu	1.80E-03 lb/MMBtu	0.0086	**0.0044**
- Bagasse	1,112,810 MMBtu	2.49E-04 lb/MMBtu	0.14	768,362 MMBtu	2.49E-04 lb/MMBtu	0.10	**0.12**
Boiler No. 8 (EU 028)							
- No. 2 Fuel Oil	56,145 MMBtu	3.19E-05 lb/MMBtu	8.97E-04	34,107 MMBtu	1.80E-03 lb/MMBtu	0.031	**0.016**
- Bagasse	5,537,606 MMBtu	1.33E-03 lb/MMBtu	3.69	4,471,358 MMBtu	1.33E-03 lb/MMBtu	2.98	**3.33**
- Wood/Bark	-- MMBtu	1.11E-03 lb/MMBtu	--	222,822 MMBtu	1.11E-03 lb/MMBtu	0.12	**0.062**
GCRF - No. 2 Fuel Oil (EU 017)	45,909 MMBtu	3.19E-05 lb/MMBtu	7.33E-04	45,973 MMBtu	1.80E-03 lb/MMBtu	0.041	**0.021**
						Total	**3.55**
Lead - Pb	**2006**			**2007**			**'06 - '07**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	11,871 MMBtu	9.00E-06 lb/MMBtu	5.34E-05	11,092 MMBtu	9.00E-06 lb/MMBtu	4.99E-05	**5.17E-05**
- Bagasse	499,601 MMBtu	3.08E-05 lb/MMBtu	0.0077	410,364 MMBtu	3.08E-05 lb/MMBtu	0.0063	**0.0070**
Boiler No. 8 (EU 028)							
- No. 2 Fuel Oil	86,810 MMBtu	9.00E-06 lb/MMBtu	3.91E-04	95,102 MMBtu	9.00E-06 lb/MMBtu	4.28E-04	**4.09E-04**
- Bagasse	3,660,422 MMBtu	3.08E-05 lb/MMBtu	0.056	4,271,875 MMBtu	3.08E-05 lb/MMBtu	0.066	**0.061**
- Wood/Bark	828,900 MMBtu	8.10E-04 lb/MMBtu	0.34	408,438 MMBtu	8.10E-04 lb/MMBtu	0.17	**0.25**
GCRF - No. 2 Fuel Oil (EU 017)	35,167 MMBtu	9.00E-06 lb/MMBtu	1.58E-04	52,926 MMBtu	9.00E-06 lb/MMBtu	2.38E-04	**1.98E-04**
						Total	**0.32**

Table 4-1: Scenario 1 - Detail of Baseline Actual Annual Emissions

Source Description	Year 1 Activity Factor	Year 1 Emission Factor	Year 1 Emissions (TPY) [a]	Year 2 Activity Factor	Year 2 Emission Factor	Year 2 Emissions (TPY) [a]	2-Year Average (TPY)
Mercury - Hg	**2008**			**2009**			**'08 - '09**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	14,327 MMBtu	3.00E-06 lb/MMBtu	2.15E-05	9,537 MMBtu	3.00E-06 lb/MMBtu	1.43E-05	**1.79E-05**
- Bagasse	1,112,810 MMBtu	4.60E-06 lb/MMBtu	0.0026	768,362 MMBtu	4.60E-06 lb/MMBtu	0.0018	**0.0022**
Boiler No. 8 (EU 028)							
- No. 2 Fuel Oil	56,145 MMBtu	3.00E-06 lb/MMBtu	8.42E-05	34,107 MMBtu	3.00E-06 lb/MMBtu	5.12E-05	**6.77E-05**
- Bagasse	5,537,606 MMBtu	4.60E-06 lb/MMBtu	0.013	4,471,358 MMBtu	4.60E-06 lb/MMBtu	0.010	**0.012**
- Wood/Bark	-- MMBtu	3.50E-06 lb/MMBtu	--	222,822 MMBtu	3.50E-06 lb/MMBtu	3.90E-04	**1.95E-04**
GCRF - No. 2 Fuel Oil (EU 017)	45,909 MMBtu	3.00E-06 lb/MMBtu	6.89E-05	45,973 MMBtu	3.00E-06 lb/MMBtu	6.90E-05	**6.89E-05**
						Total	**0.014**
Fluoride - F	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	2.49E-04 lb/MMBtu	0.014	80,961 MMBtu	2.49E-04 lb/MMBtu	0.010	**0.012**
- Bagasse	1,622,657 MMBtu	-- lb/MMBtu	--	1,559,088 MMBtu	-- lb/MMBtu	--	**--**
Boiler No. 8 (EU 028)							
- No. 2 Fuel Oil	-- MMBtu	-- lb/MMBtu	--	-- MMBtu	-- lb/MMBtu	--	**--**
- Bagasse	-- MMBtu	-- lb/MMBtu	--	-- MMBtu	-- lb/MMBtu	--	**--**
- Wood/Bark	-- MMBtu	-- lb/MMBtu	--	-- MMBtu	-- lb/MMBtu	--	**--**
GCRF - No. 2 Fuel Oil (EU 017)	40,078 MMBtu	-- lb/MMBtu	--	39,417 MMBtu	-- lb/MMBtu	--	**--**
						Total	**0.012**
Biogenic Carbon Dioxide - CO_2	**2008**			**2009**			**'08 - '09**
Boiler No. 2 (EU 002)							
- Bagasse	1,112,810 MMBtu	234.2593 lb/MMBtu	130,343	768,362 MMBtu	234.2593 lb/MMBtu	89,998	**110,171**
Boiler No. 8 (EU 028)							
- Bagasse	5,537,606 MMBtu	234.26 lb/MMBtu	648,618	4,471,358 MMBtu	234.26 lb/MMBtu	523,729	**586,173**
- Wood/Bark	-- MMBtu	206.79 lb/MMBtu	--	222,822 MMBtu	206.79 lb/MMBtu	23,039	**11,520**
						Total	**707,863**
Non-Biogenic Carbon Dioxide - CO_2	**2005**			**2006**			**'05 - '06**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	28,737 MMBtu	163.0537 lb/MMBtu	2,343	11,871 MMBtu	163.0537 lb/MMBtu	967.79	**1,655**
Boiler No. 8 (EU 028)							
- No. 2 Fuel Oil	242,741 MMBtu	163.05 lb/MMBtu	19,790	86,810 MMBtu	163.05 lb/MMBtu	7,077	**13,434**
GCRF - No. 2 Fuel Oil (EU 017)	42,899 MMBtu	163.05 lb/MMBtu	3,497	35,167 MMBtu	163.05 lb/MMBtu	2,867	**3,182**
						Total	**18,271**
Methane - CH_4	**2008**			**2009**			**'08 - '09**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	14,327 MMBtu	0.0066 lb/MMBtu	0.047	9,537 MMBtu	0.0066 lb/MMBtu	0.032	**0.039**
- Bagasse	1,112,810 MMBtu	0.0705 lb/MMBtu	39.25	768,362 MMBtu	0.0705 lb/MMBtu	27.10	**33.18**
Boiler No. 8 (EU 028)							
- No. 2 Fuel Oil	56,145 MMBtu	0.0066 lb/MMBtu	0.19	34,107 MMBtu	0.0066 lb/MMBtu	0.11	**0.15**
- Bagasse	5,537,606 MMBtu	0.0705 lb/MMBtu	195.33	4,471,358 MMBtu	0.0705 lb/MMBtu	157.72	**176.53**
- Wood/Bark	-- MMBtu	0.0705 lb/MMBtu	--	222,822 MMBtu	0.0705 lb/MMBtu	7.86	**3.93**
GCRF - No. 2 Fuel Oil (EU 017)	45,909 MMBtu	0.0066 lb/MMBtu	0.15	45,973 MMBtu	0.0066 lb/MMBtu	0.15	**0.15**
						Total	**213.98**
Nitrous Oxide - N_2O	**2008**			**2009**			**'08 - '09**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	14,327 MMBtu	0.0013 lb/MMBtu	0.009	9,537 MMBtu	0.0013 lb/MMBtu	0.0063	**0.0079**
- Bagasse	1,112,810 MMBtu	0.0093 lb/MMBtu	5.15	768,362 MMBtu	0.0093 lb/MMBtu	3.56	**4.35**
Boiler No. 8 (EU 028)							
- No. 2 Fuel Oil	56,145 MMBtu	0.0013 lb/MMBtu	0.037	34,107 MMBtu	0.0013 lb/MMBtu	0.023	**0.030**
- Bagasse	5,537,606 MMBtu	0.0093 lb/MMBtu	25.64	4,471,358 MMBtu	0.0093 lb/MMBtu	20.70	**23.17**
- Wood/Bark	-- MMBtu	0.0093 lb/MMBtu	--	222,822 MMBtu	0.0093 lb/MMBtu	1.03	**0.52**
GCRF - No. 2 Fuel Oil (EU 017)	45,909 MMBtu	0.0013 lb/MMBtu	0.030	45,973 MMBtu	0.0013 lb/MMBtu	0.030	**0.030**
						Total	**28.11**

Table 4-2: Scenario 2 - Detail of Baseline Actual Annual Emissions

Source Description	Year 1 Activity Factor	Year 1 Emission Factor	Year 1 Emissions (TPY) [a]	Year 2 Activity Factor	Year 2 Emission Factor	Year 2 Emissions (TPY) [a]	2-Year Average (TPY)
Sulfur Dioxide - SO_2	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	0.0523 lb/MMBtu	2.88	80,961 MMBtu	0.0523 lb/MMBtu	2.12	**2.50**
- Bagasse	1,622,657 MMBtu	0.0056 lb/MMBtu	4.54	1,559,088 MMBtu	0.0056 lb/MMBtu	4.37	**4.45**
Boiler No. 7 (EU 014)							
- No. 2 Fuel Oil	504,202 MMBtu	0.0506 lb/MMBtu	12.75	490,278 MMBtu	0.0506 lb/MMBtu	12.40	**12.58**
- Bagasse	2,744,467 MMBtu	0.0393 lb/MMBtu	53.97	2,706,898 MMBtu	0.0393 lb/MMBtu	53.24	**53.61**
GCRF - No. 2 Fuel Oil (EU 017)	40,078 MMBtu	0.0506 lb/MMBtu	1.01	39,417 MMBtu	0.0506 lb/MMBtu	1.00	**1.01**
						Total	**74.14**
Nitrogen Oxides - NO_x	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	0.3133 lb/MMBtu	17.22	80,961 MMBtu	0.3133 lb/MMBtu	12.68	**14.95**
- Bagasse	1,622,657 MMBtu	0.0980 lb/MMBtu	79.51	1,559,088 MMBtu	0.0980 lb/MMBtu	76.40	**77.95**
Boiler No. 7 (EU 014)							
- No. 2 Fuel Oil	504,202 MMBtu	0.1739 lb/MMBtu	43.84	490,278 MMBtu	0.1739 lb/MMBtu	42.63	**43.24**
- Bagasse	2,744,467 MMBtu	0.2133 lb/MMBtu	292.74	2,706,898 MMBtu	0.2085 lb/MMBtu	282.15	**287.45**
GCRF - No. 2 Fuel Oil (EU 017)	40,078 MMBtu	0 lb/MMBtu	4.84	39,417 MMBtu	0 lb/MMBtu	4.76	**4.80**
						Total	**428.39**
Carbon Monoxide - CO	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	0.0333 lb/MMBtu	1.83	80,961 MMBtu	0.0333 lb/MMBtu	1.35	**1.59**
- Bagasse	1,622,657 MMBtu	17.1575 lb/MMBtu	13,920	1,559,088 MMBtu	17.1575 lb/MMBtu	13,375	**13,648**
Boiler No. 7 (EU 014)							
- No. 2 Fuel Oil	504,202 MMBtu	0.0362 lb/MMBtu	9.13	490,278 MMBtu	0.0362 lb/MMBtu	8.88	**9.01**
- Bagasse	2,744,467 MMBtu	0.2454 lb/MMBtu	336.75	2,706,898 MMBtu	0.2219 lb/MMBtu	300.38	**318.56**
GCRF - No. 2 Fuel Oil (EU 017)	40,078 MMBtu	0 lb/MMBtu	4.84	39,417 MMBtu	0 lb/MMBtu	4.76	**4.80**
						Total	**13,982**
Particulate Matter Total - PM	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	0.0245 lb/MMBtu	1.35	80,961 MMBtu	0.0245 lb/MMBtu	0.99	**1.17**
- Bagasse	1,622,657 MMBtu	0.1948 lb/MMBtu	158.07	1,559,088 MMBtu	0.2060 lb/MMBtu	160.59	**159.33**
Boiler No. 7 (EU 014)							
- No. 2 Fuel Oil	504,202 MMBtu	0.0145 lb/MMBtu	3.65	490,278 MMBtu	0.0145 lb/MMBtu	3.55	**3.60**
- Bagasse	2,744,467 MMBtu	0.0116 lb/MMBtu	15.92	2,706,898 MMBtu	0.0149 lb/MMBtu	20.12	**18.02**
GCRF - No. 2 Fuel Oil (EU 017)	5,928 hr/yr	0.44 lb/hr	1.31	7,584 hr/yr	0.44 lb/hr	1.67	**1.49**
White Sugar Dryer No. 1 (EU 016)	7,416 hr/yr	1.63 lb/hr	6.04	7,848 hr/yr	1.63 lb/hr	6.40	**6.22**
Vacuum Systems (EU 018)	7,416 hr/yr	0.18 lb/hr	0.67	7,848 hr/yr	0.18 lb/hr	0.71	**0.69**
Conditioning Silos (EU 019)	8,760 hr/yr	0.18 lb/hr	0.79	8,760 hr/yr	0.18 lb/hr	0.79	**0.79**
Sugar/Starch Bins (EU 020)	7,416 hr/yr	0.25 lb/hr	0.93	8,760 hr/yr	0.25 lb/hr	1.10	**1.01**
Sugar Packaging (EU 022)	7,416 hr/yr	0.21 lb/hr	0.78	8,760 hr/yr	0.21 lb/hr	0.92	**0.85**
White Sugar Dryer No. 2 (EU 029)	-- --	-- --	--	-- --	-- --	--	**--**
						Total	**193.17**
Particulate Matter - PM_{10}	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	0.0152 lb/MMBtu	0.84	80,961 MMBtu	0.0152 lb/MMBtu	0.62	**0.73**
- Bagasse	1,622,657 MMBtu	0.1812 lb/MMBtu	147.00	1,559,088 MMBtu	0.1916 lb/MMBtu	149.35	**148.18**
Boiler No. 7 (EU 014)							
- No. 2 Fuel Oil	504,202 MMBtu	0.0080 lb/MMBtu	2.01	490,278 MMBtu	0.0080 lb/MMBtu	1.95	**1.98**
- Bagasse	2,744,467 MMBtu	0.0108 lb/MMBtu	14.80	2,706,898 MMBtu	0.0138 lb/MMBtu	18.71	**16.76**
GCRF - No. 2 Fuel Oil (EU 017)	5,928 hr/yr	0.44 lb/hr	1.31	7,584 hr/yr	0.44 lb/hr	1.67	**1.49**
White Sugar Dryer No. 1 (EU 016)	7,416 hr/yr	1.63 lb/hr	6.04	7,848 hr/yr	1.63 lb/hr	6.40	**6.22**
Vacuum Systems (EU 018)	7,416 hr/yr	0.18 lb/hr	0.67	7,848 hr/yr	0.18 lb/hr	0.71	**0.69**
Conditioning Silos (EU 019)	8,760 hr/yr	0.18 lb/hr	0.79	8,760 hr/yr	0.18 lb/hr	0.79	**0.79**
Sugar/Starch Bins (EU 020)	7,416 hr/yr	0.25 lb/hr	0.93	8,760 hr/yr	0.25 lb/hr	1.10	**1.01**
Sugar Packaging (EU 022)	7,416 hr/yr	0.21 lb/hr	0.78	8,760 hr/yr	0.21 lb/hr	0.92	**0.85**
White Sugar Dryer No. 2 (EU 029)	-- --	-- --	--	-- --	-- --	--	**--**
						Total	**178.69**
Particulate Matter - $PM_{2.5}$	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	0.0056 lb/MMBtu	0.31	80,961 MMBtu	0.0056 lb/MMBtu	0.23	**0.27**
- Bagasse	1,622,657 MMBtu	0.1266 lb/MMBtu	102.74	1,559,088 MMBtu	0.1339 lb/MMBtu	104.39	**103.56**
Boiler No. 7 (EU 014)							
- No. 2 Fuel Oil	504,202 MMBtu	0.0061 lb/MMBtu	1.53	490,278 MMBtu	0.0061 lb/MMBtu	1.49	**1.51**
- Bagasse	2,744,467 MMBtu	0.0075 lb/MMBtu	10.35	2,706,898 MMBtu	0.0097 lb/MMBtu	13.08	**11.71**
GCRF - No. 2 Fuel Oil (EU 017)	5,928 hr/yr	0.44 lb/hr	1.31	7,584 hr/yr	0.441 lb/hr	1.67	**1.49**
White Sugar Dryer No. 1 (EU 016)	7,416 hr/yr	1.63 lb/hr	6.04	7,848 hr/yr	1.63 lb/hr	6.40	**6.22**
Vacuum Systems (EU 018)	7,416 hr/yr	0.18 lb/hr	0.67	7,848 hr/yr	0.18 lb/hr	0.71	**0.69**
Conditioning Silos (EU 019)	8,760 hr/yr	0.18 lb/hr	0.79	8,760 hr/yr	0.18 lb/hr	0.79	**0.79**
Sugar/Starch Bins (EU 020)	7,416 hr/yr	0.25 lb/hr	0.93	8,760 hr/yr	0.25 lb/hr	1.10	**1.01**
Sugar Packaging (EU 022)	7,416 hr/yr	0.21 lb/hr	0.78	8,760 hr/yr	0.21 lb/hr	0.92	**0.85**
White Sugar Dryer No. 2 (EU 029)	-- --	-- --	--	-- --	-- --	--	**--**
						Total	**128.11**
Volatile Organic Compounds - VOC	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	0.0019 lb/MMBtu	0.10	80,961 MMBtu	0.0019 lb/MMBtu	0.076	**0.089**
- Bagasse	1,622,657 MMBtu	2.0040 lb/MMBtu	1,626	1,559,088 MMBtu	2.0040 lb/MMBtu	1,562	**1,594**
Boiler No. 7 (EU 014)							
- No. 2 Fuel Oil	504,202 MMBtu	0.0014 lb/MMBtu	0.37	490,278 MMBtu	0.0014 lb/MMBtu	0.36	**0.36**
- Bagasse	2,744,467 MMBtu	0.0277 lb/MMBtu	37.98	2,706,898 MMBtu	0.0272 lb/MMBtu	36.83	**37.41**
GCRF - No. 2 Fuel Oil (EU 017)	40,078 MMBtu	0.328 lb/MMBtu	6.57	39,417 MMBtu	0.328 lb/MMBtu	6.46	**6.52**
Alcohol Usage (EU 021)	6,834 lb alcohol	-- --	3.42	5,755 lb alcohol	-- --	2.88	**3.15**
						Total	**1,642**
Sulfuric Acid Mist - SAM	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	0.0023 lb/MMBtu	0.13	80,961 MMBtu	0.0023 lb/MMBtu	0.09	**0.11**
- Bagasse	1,622,657 MMBtu	0.0002 lb/MMBtu	0.20	1,559,088 MMBtu	0.0002 lb/MMBtu	0.19	**0.20**
Boiler No. 7 (EU 014)							
- No. 2 Fuel Oil	504,202 MMBtu	0.0022 lb/MMBtu	0.57	490,278 MMBtu	0.0022 lb/MMBtu	0.55	**0.56**
- Bagasse	2,744,467 MMBtu	0.0017 lb/MMBtu	2.40	2,706,898 MMBtu	0.0017 lb/MMBtu	2.37	**2.38**
GCRF - No. 2 Fuel Oil (EU 017)	40,078 MMBtu	2.25E-03 lb/MMBtu	0.045	39,417 MMBtu	2.25E-03 lb/MMBtu	0.044	**0.045**
						Total	**3.30**
Lead - Pb	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	0.0000 lb/MMBtu	5.53E-04	80,961 MMBtu	0.0000 lb/MMBtu	4.08E-04	**4.80E-04**
- Bagasse	1,622,657 MMBtu	0.0000 lb/MMBtu	0.025	1,559,088 MMBtu	0.0000 lb/MMBtu	0.024	**0.024**
Boiler No. 7 (EU 014)							
- No. 2 Fuel Oil	504,202 MMBtu	0.0000 lb/MMBtu	0.0023	490,278 MMBtu	0.0000 lb/MMBtu	0.0022	**0.0022**
- Bagasse	2,744,467 MMBtu	0.0000 lb/MMBtu	0.042	2,706,898 MMBtu	0.0000 lb/MMBtu	0.042	**0.042**
GCRF - No. 2 Fuel Oil (EU 017)	40,078 MMBtu	9.00E-06 lb/MMBtu	1.80E-04	39,417 MMBtu	9.00E-06 lb/MMBtu	1.77E-04	**1.79E-04**
						Total	**0.069**
Mercury - Hg	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	0.0000 lb/MMBtu	4.14E-05	80,961 MMBtu	0.0000 lb/MMBtu	3.05E-05	**3.59E-05**
- Bagasse	1,622,657 MMBtu	0.0000 lb/MMBtu	0.0037	1,559,088 MMBtu	0.0000 lb/MMBtu	0.0036	**0.0037**
Boiler No. 7 (EU 014)							
- No. 2 Fuel Oil	504,202 MMBtu	0.0000 lb/MMBtu	7.56E-04	490,278 MMBtu	0.0000 lb/MMBtu	7.35E-04	**7.46E-04**
- Bagasse	2,744,467 MMBtu	0.0000 lb/MMBtu	0.0063	2,706,898 MMBtu	0.0000 lb/MMBtu	0.0062	**0.0063**
GCRF - No. 2 Fuel Oil (EU 017)	40,078 MMBtu	3.00E-06 lb/MMBtu	6.01E-05	39,417 MMBtu	3.00E-06 lb/MMBtu	5.91E-05	**5.96E-05**
						Total	**0.011**

Table 4-2: Scenario 2 - Detail of Baseline Actual Annual Emissions

Source Description	Year 1 Activity Factor	Year 1 Emission Factor	Year 1 Emissions (TPY) [a]	Year 2 Activity Factor	Year 2 Emission Factor	Year 2 Emissions (TPY) [a]	2-Year Average (TPY)
Fluoride - F	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	0.0002 lb/MMBtu	0.014	80,961 MMBtu	0.0002 lb/MMBtu	0.010	**0.012**
- Bagasse	1,622,657 MMBtu	-- lb/MMBtu	--	1,559,088 MMBtu	-- lb/MMBtu	--	--
Boiler No. 7 (EU 014)							
- No. 2 Fuel Oil	504,202 MMBtu	-- lb/MMBtu	--	490,278 MMBtu	-- lb/MMBtu	--	--
- Bagasse	2,744,467 MMBtu	-- lb/MMBtu	--	2,706,898 MMBtu	-- lb/MMBtu	--	--
GCRF - No. 2 Fuel Oil (EU 017)	40,078 MMBtu	-- lb/MMBtu	--	39,417 MMBtu	-- lb/MMBtu	--	--
						Total	**0.012**
Biogenic Carbon Dioxide - CO_2	**2003**			**2004**			**'03 - '04**
Boiler No. 2 (EU 002)							
- Bagasse	1,559,088 MMBtu	234.2593 lb/MMBtu	182,615	1,258,927 MMBtu	234.2593 lb/MMBtu	147,458	**165,037**
Boiler No. 7 (EU 014)							
- Bagasse	2,706,898 MMBtu	234.26 lb/MMBtu	317,058	3,135,953 MMBtu	234.26 lb/MMBtu	367,313	**342,185**
						Total	**507,222**
Non-Biogenic Carbon Dioxide - CO_2	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	165.5670 lb/MMBtu	9,100	80,961 MMBtu	165.5670 lb/MMBtu	6,702	**7,901**
Boiler No. 7 (EU 014)							
- No. 2 Fuel Oil	504,202 MMBtu	163.05 lb/MMBtu	41,106	490,278 MMBtu	163.05 lb/MMBtu	39,971	**40,538**
GCRF - No. 2 Fuel Oil (EU 017)	40,078 MMBtu	163.05 lb/MMBtu	3,267	39,417 MMBtu	163.05 lb/MMBtu	3,214	**3,240**
						Total	**51,680**
Methane - CH_4	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	0.0066 lb/MMBtu	0.36	80,961 MMBtu	0.0066 lb/MMBtu	0.27	**0.32**
- Bagasse	1,622,657 MMBtu	0.0705 lb/MMBtu	57.24	1,559,088 MMBtu	0.0705 lb/MMBtu	55.00	**56.12**
Boiler No. 7 (EU 014)							
- No. 2 Fuel Oil	504,202 MMBtu	0.0066 lb/MMBtu	1.67	490,278 MMBtu	0.0066 lb/MMBtu	1.62	**1.64**
- Bagasse	2,744,467 MMBtu	0.0705 lb/MMBtu	96.81	2,706,898 MMBtu	0.0705 lb/MMBtu	95.48	**96.15**
GCRF - No. 2 Fuel Oil (EU 017)	40,078 MMBtu	0.0066 lb/MMBtu	0.13	39,417 MMBtu	0.0066 lb/MMBtu	0.13	**0.13**
						Total	**154.35**
Nitrous Oxide - N_2O	**2002**			**2003**			**'02 - '03**
Boiler No. 2 (EU 002)							
- No. 2/6 Fuel Oil	109,922 MMBtu	0.0013 lb/MMBtu	0.073	80,961 MMBtu	0.0013 lb/MMBtu	0.054	**0.063**
- Bagasse	1,622,657 MMBtu	0.0093 lb/MMBtu	7.51	1,559,088 MMBtu	0.0093 lb/MMBtu	7.22	7.37
Boiler No. 7 (EU 014)							
- No. 2 Fuel Oil	504,202 MMBtu	0.0013 lb/MMBtu	0.33	490,278 MMBtu	0.0013 lb/MMBtu	0.32	**0.33**
- Bagasse	2,744,467 MMBtu	0.0093 lb/MMBtu	12.71	2,706,898 MMBtu	0.0093 lb/MMBtu	12.53	**12.62**
GCRF - No. 2 Fuel Oil (EU 017)	40,078 MMBtu	0.0013 lb/MMBtu	0.027	39,417 MMBtu	0.0013 lb/MMBtu	0.026	**0.026**
						Total	**20.40**

Table 4-3: Scenario 1 - Projected Actual Annual Emissions

Pollutant	Emission Factor	Ref	Annual Activity Factor [a]	Additional Heat Input (MMBtu/yr)	Annual Emissions (TPY)
Sulfur Dioxide - SO_2					
	0.05 % Sulfur	1	-- --		
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	0.0506 lb/MMBtu	2	4.03 % from Fuel Oil		1.43
- Bagasse	0.0056 lb/MMBtu	3	95.97 % from Bagasse		3.78
Boiler No. 8 (EU 028)			4,838,582 MMBtu/yr	201,984	
- No. 2 Fuel Oil	0.0506 lb/MMBtu	2	9.72 % from Fuel Oil		12.39
- Bagasse	0.0299 lb/MMBtu	4	90.28 % from Bagasse		68.14
- Wood/Bark	0.0250 lb/MMBtu	5	0.00 % from Wood		0
GCRF - No. 2 Fuel Oil (EU 017)	0.0506 lb/MMBtu	2	59,225 MMBtu/yr		1.50
			Total:		**87.23**
Nitrogen Oxides - NO_x					
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	0.139 lb/MMBtu	6	4.03 % from Fuel Oil		3.94
- Bagasse	0.0980 lb/MMBtu	7	95.97 % from Bagasse		66.11
Boiler No. 8 (EU 028)			4,838,582 MMBtu/yr	201,984	
- No. 2 Fuel Oil	0.1275 lb/MMBtu	4	0.00 % from Fuel Oil		0
- Bagasse	0.1275 lb/MMBtu	4	99.00 % from Bagasse		318.22
- Wood/Bark	0.1275 lb/MMBtu	4	1.00 % from Wood		3.23
GCRF - No. 2 Fuel Oil (EU 017)	0.2415 lb/MMBtu	8	59,225 MMBtu/yr		7.15
			Total:		**398.64**
Carbon Monoxide - CO					
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	0.0362 lb/MMBtu	2	0.76 % from Fuel Oil		0.19
- Bagasse	17.158 lb/MMBtu	7	99.24 % from Bagasse		11,968
Boiler No. 8 (EU 028)			4,838,582 MMBtu/yr	201,984	
- No. 2 Fuel Oil	0.4616 lb/MMBtu	4	0.00 % from Fuel Oil		0
- Bagasse	0.4616 lb/MMBtu	4	99.00 % from Bagasse		1,152
- Wood/Bark	0.4616 lb/MMBtu	4	1.00 % from Wood		11.68
GCRF - No. 2 Fuel Oil (EU 017)	0.24 lb/MMBtu	8	59,225 MMBtu/yr		7.15
			Total:		**13,139**
Particulate Matter Total - PM					
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	0.0145 lb/MMBtu	2	0.76 % from Fuel Oil		0.077
- Bagasse	0.1789 lb/MMBtu	4	99.24 % from Bagasse		124.81
Boiler No. 8 (EU 028)			4,838,582 MMBtu/yr	201,984	
- No. 2 Fuel Oil	0.0145 lb/MMBtu	2	9.72 % from Fuel Oil		3.55
- Bagasse	0.0106 lb/MMBtu	4	90.28 % from Bagasse		24.18
- Wood/Bark	0.0106 lb/MMBtu	9	0.00 % from Wood		0
GCRF - No. 2 Fuel Oil (EU 017)	0.4413 lb/hr	10	8,760 hr/yr		1.93
White Sugar Dryer No. 1 (EU 016)	1.63 lb/hr	11	8,760 hr/yr		7.14
Vacuum Systems (EU 018)	0.18 lb/hr	11	8,760 hr/yr		0.79
Conditioning Silos (EU 019)	0.18 lb/hr	11	8,760 hr/yr		0.79
Sugar/Starch Bins (EU 020)	0.25 lb/hr	11	8,760 hr/yr		1.10
Sugar Packaging (EU 022)	0.21 lb/hr	11	8,760 hr/yr		0.92
White Sugar Dryer No. 2 (EU 029)	0.125 lb/ton sugar	12	401,500 TPY sugar		25.11
			Total:		**190.39**
Particulate Matter - PM_{10}					
Boiler No. 2 (EU 002)					
- No. 2 Fuel Oil	55 % of PM	13	-- --		0.043
- Bagasse	93 % of PM	14	-- --		116.08
Boiler No. 8 (EU 028)					
- No. 2 Fuel Oil	55 % of PM	13	-- --		1.95
- Bagasse	100 % of PM	15	-- --		24.18
- Wood/Bark	100 % of PM	15	-- --		0
GCRF - No. 2 Fuel Oil (EU 017)	100 % of PM	10	-- --		1.93
White Sugar Dryer No. 1 (EU 016)	100 % of PM	16	-- --		7.14
Vacuum Systems (EU 018)	100 % of PM	16	-- --		0.79
Conditioning Silos (EU 019)	100 % of PM	16	-- --		0.79
Sugar/Starch Bins (EU 020)	100 % of PM	16	-- --		1.10
Sugar Packaging (EU 022)	100 % of PM	16	-- --		0.92
White Sugar Dryer No. 2 (EU 029)	0.0558 lb/ton sugar	17	401,500 TPY sugar		11.19
			Total:		**166.11**
Particulate Matter - $PM_{2.5}$					
Boiler No. 2 (EU 002)					
- No. 2 Fuel Oil	42 % of PM	13	-- --		0.033
- Bagasse	65 % of PM	14	-- --		81.13
Boiler No. 8 (EU 028)					
- No. 2 Fuel Oil	42 % of PM	13	-- --		1.49
- Bagasse	65 % of PM	15	-- --		15.72
- Wood/Bark	65 % of PM	15	-- --		0
GCRF - No. 2 Fuel Oil (EU 017)	100 % of PM	10	-- --		1.93
White Sugar Dryer No. 1 (EU 016)	100 % of PM	16	-- --		7.14
Vacuum Systems (EU 018)	100 % of PM	16	-- --		0.79
Conditioning Silos (EU 019)	100 % of PM	16	-- --		0.79
Sugar/Starch Bins (EU 020)	100 % of PM	16	-- --		1.10
Sugar Packaging (EU 022)	100 % of PM	16	-- --		0.92
White Sugar Dryer No. 2 (EU 029)	100 % of PM_{10}	17	-- --		11.19
			Total:		**122.23**
Volatile Organic Compounds - VOC					
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	0.0014 lb/MMBtu	18	0.76 % from Fuel Oil		0.0077
- Bagasse	2.0040 lb/MMBtu	7	99.24 % from Bagasse		1,398
Boiler No. 8 (EU 028)			4,838,582 MMBtu/yr	201,984	
- No. 2 Fuel Oil	0.0014 lb/MMBtu	18	0.00 % from Fuel Oil		0
- Bagasse	0.0226 lb/MMBtu	4	99.00 % from Bagasse		56.43
- Wood/Bark	0.0170 lb/MMBtu	19	1.00 % from Wood		0.43
GCRF - No. 2 Fuel Oil (EU 017)	0.3279 lb/hr	8	8,760 hr/yr		1.44
Alcohol Usage (EU 021)	-- --	--	9,045 lb/yr alcohol		4.52
			Total:		**1,461**
Sulfuric Acid Mist - SAM					
Boiler No. 2 (EU 002)					
- No. 2 Fuel Oil	4.45 % of SO_2	20	-- --		0.064
- Bagasse	4.45 % of SO_2	20	-- --		0.17
Boiler No. 8 (EU 028)					
- No. 2 Fuel Oil	4.45 % of SO_2	20	-- --		0.55
- Bagasse	4.45 % of SO_2	20	-- --		3.03
- Wood/Bark	4.45 % of SO_2	20	-- --		0
GCRF - No. 2 Fuel Oil (EU 017)	4.45 % of SO_2	20	-- --		0.067
			Total:		**3.88**

Table 4-3: Scenario 1 - Projected Actual Annual Emissions

Pollutant	Emission Factor	Ref	Annual Activity Factor [a]	Additional Heat Input (MMBtu/yr)	Annual Emissions (TPY)
Lead - Pb					
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	9.00E-06 lb/MMBtu	21	0.76 % from Fuel Oil		4.8E-05
- Bagasse	3.08E-05 lb/MMBtu	22	99.24 % from Bagasse		0.021
Boiler No. 8 (EU 028)			4,838,582 MMBtu/yr	201,984	
- No. 2 Fuel Oil	9.00E-06 lb/MMBtu	21	0.00 % from Fuel Oil		0
- Bagasse	3.08E-05 lb/MMBtu	22	81.89 % from Bagasse		0.064
- Wood/Bark	8.10E-04 lb/MMBtu	23	18.11 % from Wood		0.37
GCRF - No. 2 Fuel Oil (EU 017)	9.00E-06 lb/MMBtu	21	59,225 MMBtu/yr		2.7E-04
			Total:		**0.46**
Mercury - Hg					
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	3.00E-06 lb/MMBtu	21	0.76 % from Fuel Oil		1.6E-05
- Bagasse	4.60E-06 lb/MMBtu	22	99.24 % from Bagasse		0.0032
Boiler No. 8 (EU 028)			4,838,582 MMBtu/yr	201,984	
- No. 2 Fuel Oil	3.00E-06 lb/MMBtu	21	0.00 % from Fuel Oil		0
- Bagasse	4.60E-06 lb/MMBtu	22	99.00 % from Bagasse		0.011
- Wood/Bark	3.50E-06 lb/MMBtu	24	1.00 % from Wood		8.9E-05
GCRF - No. 2 Fuel Oil (EU 017)	3.00E-06 lb/MMBtu	21	59,225 MMBtu/yr		8.9E-05
			Total:		**0.015**
Fluoride - F					
Boiler No. 2 (EU 002)					
- No. 2 Fuel Oil	-- --		-- --		--
- Bagasse	-- --		-- --		--
Boiler No. 8 (EU 028)					
- No. 2 Fuel Oil	-- --		-- --		--
- Bagasse	-- --		-- --		--
- Wood/Bark	-- --		-- --		--
GCRF - No. 2 Fuel Oil (EU 017)	-- --		-- --		--
			Total:		**0**
Carbon Dioxide - CO_2					
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	163.05 lb/MMBtu	25	0.76 % from Fuel Oil		871.29
- Bagasse	234.26 lb/MMBtu	26	99.24 % from Bagasse		163,409
Boiler No. 8 (EU 028)			4,838,582 MMBtu/yr	201,984	
- No. 2 Fuel Oil	163.05 lb/MMBtu	25	0.00 % from Fuel Oil		0
- Bagasse	234.26 lb/MMBtu	26	99.00 % from Bagasse		584,474
- Wood/Bark	206.79 lb/MMBtu	25	1.00 % from Wood		5,231
GCRF - No. 2 Fuel Oil (EU 017)	163.05 lb/MMBtu	25	59,225 MMBtu/yr		4,828
			Total:		**758,813**
Methane - CH_4					
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	0.0066 lb/MMBtu	25	0.76 % from Fuel Oil		0.035
- Bagasse	0.0705 lb/MMBtu	25	99.24 % from Bagasse		49.21
Boiler No. 8 (EU 028)			4,838,582 MMBtu/yr	201,984	
- No. 2 Fuel Oil	0.0066 lb/MMBtu	25	0.00 % from Fuel Oil		0
- Bagasse	0.0705 lb/MMBtu	25	99.00 % from Bagasse		176.02
- Wood/Bark	0.0705 lb/MMBtu	25	1.00 % from Wood		1.78
GCRF - No. 2 Fuel Oil (EU 017)	0.0066 lb/MMBtu	25	59,225 MMBtu/yr		0.20
			Total:		**227.24**
Nitrous Oxide - N_2O					
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	0.0013 lb/MMBtu	25	0.76 % from Fuel Oil		0.0071
- Bagasse	0.0093 lb/MMBtu	25	99.24 % from Bagasse		6.46
Boiler No. 8 (EU 028)			4,838,582 MMBtu/yr	201,984	
- No. 2 Fuel Oil	0.0013 lb/MMBtu	25	0.00 % from Fuel Oil		0
- Bagasse	0.0093 lb/MMBtu	25	99.00 % from Bagasse		23.10
- Wood/Bark	0.0093 lb/MMBtu	25	1.00 % from Wood		0.23
GCRF - No. 2 Fuel Oil (EU 017)	0.0013 lb/MMBtu	25	59,225 MMBtu/yr		0.039
			Total:		**29.84**

Footnotes:

[a] Annual activity factors for Boiler Nos. 2 and 8 (1,350,829 MMBtu/yr for Boiler No. 2; 4,838,528 MMBtu/yr for Boiler No. 8) are based the highest annual heat input rate over the last 5 years (excluding anomolous year of 2008 for Boiler No. 8; see Table A-7). Percentages from each fuel based on the highest emission factor (on a lb/MMBtu basis). Annual activity factor for refinery sources (GCRF, White Sugar Dryer Nos. 1 and 2, Vacuum Systems, Conditioning Silos, Sugar/Starch Bins, and Sugar Packaging) based on 8,760 hr/yr operation. Maximum sugar production based on maximum permitted production rate of 803,000 TPY, divided equally between the two white sugar dryers (401,500 TPY each). Alcohol usage increased by 14.3-percent from 7,913 lb/yr (see Table A-6) to 9,045 lb/yr.

[b] Additional heat input based on a 36,000 lb/hr increase in steam production during the crop off-season (May - September; 3,700 hr/yr). Typical operation is for only Boiler No. 8 to operate; however Boiler No. 2 will operate when Boiler No. 8 is down for maintenance. Therefore it is assumed that Boiler No. 2 operates for 30 days (720 hours) during the off-season, and Boiler No. 8 operates for 2,980 hours during the off-season. The heat input from this additional operation is calculated by mulitplying the 36,000 lb/hr steam increase by the additional hours of operation, and they multiplying by the highest hourly steam enthalpy (Btu/lb steam) for each boiler over the last 10 years (see Table A-7).

References:

1. Based on maximum permitted sulfur content of 0.05-percent (Permit No. 0510003-032-AV).
2. SO_2 emission factor based on stoichiometric conversion of sulfur in fuel (lb S/lb fuel oil x 6.98 lb/gallon x 2 lb SO_2/lb S). Emission factors based on AP-42 Table 1.3-1: NO_x - 24 lb/10^3 gal; CO - 5 lb/10^3 gal; PM - 2 lb/10^3 gal. Emission factors are divided by fuel oil heat content of 138,000 Btu/gal for No. 2 fuel oil.
3. Based on test data for Boiler No. 1 (EU 001) performed 12/8/2000 and 2/7/2005, and Boiler No. 4 performed 1/5/2000 and 2/10/2005.
4. Based on highest 5-year average stack test result from the last 10 years or highest annual average CEMS value (see Table A-3).
5. AP-42 Table 1.6-2.
6. Based stack testing performed February 2006 for distillate oil firing in Boiler No. 2 (0.139 lb/MMBtu).
7. Based stack testing performed 3/1/1999 (NO_x - 0.099 lb/MMBtu; CO - 15.530 lb/MMBtu; VOC - 1.730 lb/MMBtu) and 1/28/2000 (NO_x - 0.097 lb/MMBtu; CO - 18.785 lb/MMBtu; VOC - 2.278 lb/MMBtu).
8. Based on manufacturer design specifications provided by BSP Thermal Systems, Inc. Factor is 3 lb/hr for NOx and CO, divided by 90 gal/hr fuel oil usage, and then divided by fuel heat content of 138,000 Btu/gal.
9. Based stack testing performed 8/22/2006 for wood chip firing in Boiler No. 8.
10. Based average of stack tests performed 1/20/2000 (PM - 0.40 lb/hr; VOC - lb/hr), 9/29/2005 (PM - 0.386 lb/hr; VOC - 0.50 lb/hr), and 4/27/2011 (PM - 0.538 lb/hr; 0.0927 VOC - 0.391 lb/hr). PM_{10} and $PM_{2.5}$ emissions are assumed to be 100-percent of PM emissions.
11. Maximum permitted emission rates (Permit No. 0510003-032-AV).
12. Based on maximum stack test values (see Table A-4).
13. AP-42 Table 1.3-7 for uncontrolled PM emissions for fuel oil firing.
14. Based on historical assumption that 93-percent of PM is PM_{10}, and 65-percent of PM is $PM_{2.5}$.
15. Based on assumption that 100-percent of PM emissions are PM_{10}, and 65-percent of PM emissions are $PM_{2.5}$.
16. Assumed that PM_{10} and $PM_{2.5}$ emissions are 100-percent of PM emissions.
17. Based on average of PM_{10} stack tests performed 5/25/2006 and 2/21/2007. $PM_{2.5}$ is assumed to be 100-percent of PM_{10}.
18. AP-42 Table 1.3-3. Emission factor is 0.20 lb/10^3 gal for distillate oil. Emission factor is divided by fuel heat content of 138,000 Btu/gal for No. 2 fuel oil.
19. AP-42 Table 1.6-3.
20. Based on similar derivation of sulfuric acid mist from AP-42 for fuel oil: 3.6-percent of SO_2 becomes SO_3 then multiply the ratio of sulfuric acid mist and sulfur trioxide molecular weights (98/80).
21. AP-42 Table 1.3-10 for distillate oil firing.
22. Based on average values reported for metals analysis for bagasse.
23. Based on wood chip average reported metal analysis for wood chips (2006).
24. AP-42 Table 1.6-4.
25. Federal Register, Vol. 74, No. 209, Friday October 30, 2009, Tables C-1 and C-2. Mandatory reporting of greenhouse gases.
26. Based on bagasse analysis of 23-percent carbon. The carbon content is multiplied by the ratio of molecular weights of CO_2 (44 lb/lbmol) to C (12 lb/lbmol), multiplied by 2,000 lb/ton, and divided by bagasse heat content of 7.2 MMBtu/ton.

Table 4-4: Scenario 2 - Projected Actual Annual Emissions

Pollutant	Emission Factor	Ref	Annual Activity Factor [a]	Additional Heat Input (MMBtu/yr)	Annual Emissions (TPY)
Sulfur Dioxide - SO_2					
	0.05 % Sulfur	1	-- --		
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	0.0506 lb/MMBtu	2	4.03 % from Fuel Oil		1.43
- Bagasse	0.0056 lb/MMBtu	3	95.97 % from Bagasse		3.78
Boiler No. 7 (EU 014)			3,326,031 MMBtu/yr	227,152	
- No. 2 Fuel Oil	0.0506 lb/MMBtu	2	5.84 % from Fuel Oil		5.24
- Bagasse	0.0393 lb/MMBtu	4	94.16 % from Bagasse		65.80
GCRF - No. 2 Fuel Oil (EU 017)	0.0506 lb/MMBtu	2	59,225 MMBtu/yr		1.50
				Total:	**77.75**
Nitrogen Oxides - NO_x					
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	0.1390 lb/MMBtu	5	4.03 % from Fuel Oil		3.94
- Bagasse	0.0980 lb/MMBtu	6	95.97 % from Bagasse		66.11
Boiler No. 7 (EU 014)			3,326,031 MMBtu/yr	227,152	
- No. 2 Fuel Oil	0.1739 lb/MMBtu	2	0.65 % from Fuel Oil		2.01
- Bagasse	0.2053 lb/MMBtu	7	99.35 % from Bagasse		362.30
GCRF - No. 2 Fuel Oil (EU 017)	0.2415 lb/MMBtu	8	59,225 MMBtu/yr		7.15
				Total:	**441.51**
Carbon Monoxide - CO					
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	0.0362 lb/MMBtu	2	0.76 % from Fuel Oil		0.19
- Bagasse	17.158 lb/MMBtu	6	99.24 % from Bagasse		11,968
Boiler No. 7 (EU 014)			3,326,031 MMBtu/yr	227,152	
- No. 2 Fuel Oil	0.0362 lb/MMBtu	2	0.65 % from Fuel Oil		0.42
- Bagasse	0.3276 lb/MMBtu	7	99.35 % from Bagasse		578.23
GCRF - No. 2 Fuel Oil (EU 017)	0.2415 lb/MMBtu	8	59,225 MMBtu/yr		7.15
				Total:	**12,554**
Particulate Matter Total - PM					
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	0.0145 lb/MMBtu	2	0.76 % from Fuel Oil		0.077
- Bagasse	0.1789 lb/MMBtu	7	99.24 % from Bagasse		124.81
Boiler No. 7 (EU 014)			3,326,031 MMBtu/yr	227,152	
- No. 2 Fuel Oil	0.0145 lb/MMBtu	2	0.65 % from Fuel Oil		0.17
- Bagasse	0.0199 lb/MMBtu	7	99.35 % from Bagasse		35.07
GCRF - No. 2 Fuel Oil (EU 017)	0.4413 lb/hr	9	8,760 hr/yr		1.93
White Sugar Dryer No. 1 (EU 016)	1.63 lb/hr	10	8,760 hr/yr		7.14
Vacuum Systems (EU 018)	0.18 lb/hr	10	8,760 hr/yr		0.79
Conditioning Silos (EU 019)	0.18 lb/hr	10	8,760 hr/yr		0.79
Sugar/Starch Bins (EU 020)	0.25 lb/hr	10	8,760 hr/yr		1.10
Sugar Packaging (EU 022)	0.21 lb/hr	10	8,760 hr/yr		0.92
White Sugar Dryer No. 2 (EU 029)	0.125 lb/ton sugar	11	401,500 TPY sugar		25.11
				Total:	**197.90**
Particulate Matter - PM_{10}					
Boiler No. 2 (EU 002)					
- No. 2 Fuel Oil	55 % of PM	12	-- --		0.043
- Bagasse	93 % of PM	13	-- --		116.08
Boiler No. 7 (EU 014)					
- No. 2 Fuel Oil	55 % of PM	12	-- --		0.09
- Bagasse	93 % of PM	13	-- --		32.61
GCRF - No. 2 Fuel Oil (EU 017)	100 % of PM	9	-- --		1.93
White Sugar Dryer No. 1 (EU 016)	100 % of PM	14	-- --		7.14
Vacuum Systems (EU 018)	100 % of PM	14	-- --		0.79
Conditioning Silos (EU 019)	100 % of PM	14	-- --		0.79
Sugar/Starch Bins (EU 020)	100 % of PM	14	-- --		1.10
Sugar Packaging (EU 022)	100 % of PM	14	-- --		0.92
White Sugar Dryer No. 2 (EU 029)	0.0558 lb/ton sugar	15	401,500 TPY sugar		11.19
				Total:	**172.68**
Particulate Matter - $PM_{2.5}$					
Boiler No. 2 (EU 002)					
- No. 2 Fuel Oil	42 % of PM	12	-- --		0.033
- Bagasse	65 % of PM	13	-- --		81.13
Boiler No. 7 (EU 014)					
- No. 2 Fuel Oil	42 % of PM	12	-- --		0.070
- Bagasse	65 % of PM	13	-- --		22.79
GCRF - No. 2 Fuel Oil (EU 017)	100 % of PM	9	-- --		1.93
White Sugar Dryer No. 1 (EU 016)	100 % of PM	14	-- --		7.14
Vacuum Systems (EU 018)	100 % of PM	14	-- --		0.79
Conditioning Silos (EU 019)	100 % of PM	14	-- --		0.79
Sugar/Starch Bins (EU 020)	100 % of PM	14	-- --		1.10
Sugar Packaging (EU 022)	100 % of PM	14	-- --		0.92
White Sugar Dryer No. 2 (EU 029)	100 % of PM_{10}	15	-- --		11.19
				Total:	**127.88**
Volatile Organic Compounds - VOC					
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	0.0014 lb/MMBtu	16	0.76 % from Fuel Oil		0.0077
- Bagasse	2.0040 lb/MMBtu	6	99.24 % from Bagasse		1,398
Boiler No. 7 (EU 014)			3,326,031 MMBtu/yr	227,152	
- No. 2 Fuel Oil	0.0014 lb/MMBtu	16	0.65 % from Fuel Oil		0.017
- Bagasse	0.0344 lb/MMBtu	7	99.35 % from Bagasse		60.72
GCRF - No. 2 Fuel Oil (EU 017)	0.3279 lb/hr	8	8,760 hr/yr		1.44
Alcohol Usage (EU 021)	-- --	--	9,045 lb/yr alcohol		4.52
				Total:	**1,465**
Sulfuric Acid Mist - SAM					
Boiler No. 2 (EU 002)					
- No. 2 Fuel Oil	4.45 % of SO_2	17	-- --		0.064
- Bagasse	4.45 % of SO_2	17	-- --		0.17
Boiler No. 7 (EU 014)					
- No. 2 Fuel Oil	4.45 % of SO_2	17	-- --		0.23
- Bagasse	4.45 % of SO_2	17	-- --		2.93
GCRF - No. 2 Fuel Oil (EU 017)	4.45 % of SO_2	17	-- --		0.067
				Total:	**3.46**
Lead - Pb					
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	9.00E-06 lb/MMBtu	18	0.76 % from Fuel Oil		4.8E-05
- Bagasse	3.08E-05 lb/MMBtu	19	99.24 % from Bagasse		0.021
Boiler No. 7 (EU 014)			3,326,031 MMBtu/yr	227,152	
- No. 2 Fuel Oil	9.00E-06 lb/MMBtu	18	0.65 % from Fuel Oil		1.0E-04
- Bagasse	3.08E-05 lb/MMBtu	19	99.35 % from Bagasse		0.054
GCRF - No. 2 Fuel Oil (EU 017)	9.00E-06 lb/MMBtu	18	59,225 MMBtu/yr		2.7E-04
				Total:	**0.076**

Table 4-4: Scenario 2 - Projected Actual Annual Emissions

Pollutant	Emission Factor	Ref	Annual Activity Factor [a]	Additional Heat Input (MMBtu/yr)	Annual Emissions (TPY)
Mercury - Hg					
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	3.00E-06 lb/MMBtu	18	0.76 % from Fuel Oil		1.6E-05
- Bagasse	4.60E-06 lb/MMBtu	19	99.24 % from Bagasse		0.0032
Boiler No. 7 (EU 014)			3,326,031 MMBtu/yr	227,152	
- No. 2 Fuel Oil	3.00E-06 lb/MMBtu	18	0.65 % from Fuel Oil		3.5E-05
- Bagasse	4.60E-06 lb/MMBtu	19	99.35 % from Bagasse		0.0081
GCRF - No. 2 Fuel Oil (EU 017)	3.00E-06 lb/MMBtu	18	59,225 MMBtu/yr		8.9E-05
				Total:	**0.011**
Fluoride - F					
Boiler No. 2 (EU 002)					
- No. 2 Fuel Oil	-- --		-- --		--
- Bagasse	-- --		-- --		--
Boiler No. 7 (EU 014)					
- No. 2 Fuel Oil	-- --		-- --		--
- Bagasse	-- --		-- --		--
GCRF - No. 2 Fuel Oil (EU 017)	-- --		-- --		--
				Total:	**0**
Carbon Dioxide - CO_2					
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	163.05 lb/MMBtu	20	0.76 % from Fuel Oil		871.29
- Bagasse	234.26 lb/MMBtu	21	99.24 % from Bagasse		163,409
Boiler No. 7 (EU 014)			3,326,031 MMBtu/yr	227,152	
- No. 2 Fuel Oil	163.05 lb/MMBtu	20	0.65 % from Fuel Oil		1,883
- Bagasse	234.26 lb/MMBtu	21	99.35 % from Bagasse		413,477
GCRF - No. 2 Fuel Oil (EU 017)	163.05 lb/MMBtu	20	59,225 MMBtu/yr		4,828
				Total:	**584,469**
Methane - CH_4					
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	0.0066 lb/MMBtu	20	0.76 % from Fuel Oil		0.035
- Bagasse	0.0705 lb/MMBtu	20	99.24 % from Bagasse		49.21
Boiler No. 7 (EU 014)			3,326,031 MMBtu/yr	227,152	
- No. 2 Fuel Oil	0.0066 lb/MMBtu	20	0.65 % from Fuel Oil		0.076
- Bagasse	0.0705 lb/MMBtu	20	99.35 % from Bagasse		124.52
GCRF - No. 2 Fuel Oil (EU 017)	0.0066 lb/MMBtu	20	59,225 MMBtu/yr		0.20
				Total:	**174.04**
Nitrous Oxide - N_2O					
Boiler No. 2 (EU 002)			1,350,829 MMBtu/yr	54,969	
- No. 2 Fuel Oil	0.0013 lb/MMBtu	20	0.76 % from Fuel Oil		0.0071
- Bagasse	0.0093 lb/MMBtu	20	99.24 % from Bagasse		6.46
Boiler No. 7 (EU 014)			3,326,031 MMBtu/yr	227,152	
- No. 2 Fuel Oil	0.0013 lb/MMBtu	20	0.65 % from Fuel Oil		0.015
- Bagasse	0.0093 lb/MMBtu	20	99.35 % from Bagasse		16.34
GCRF - No. 2 Fuel Oil (EU 017)	0.0013 lb/MMBtu	20	59,225 MMBtu/yr		0.039
				Total:	**22.86**

Footnotes:

[a] Annual activity factors for Boiler Nos. 2 and 7 (1,350,829 MMBtu/yr for Boiler No. 2; 3,326,031 MMBtu/yr for Boiler No. 7) are based the highest annual heat input rate over the last 5 years (see Table B-7). Percentages from each fuel based on the highest emission factor (on a lb/MMBtu basis). Annual activity factor for refinery sources (GCRF, White Sugar Dryer Nos. 1 and 2, Vacuum Systems, Conditioning Silos, Sugar/Starch Bins, and Sugar Packaging) based on 8,760 hr/yr operation. Maximum sugar production based on maximum permitted production rate of 803,000 TPY, divided equally between the two white sugar dryers (401,500 TPY each). Alcohol usage increased by 14.3-percent from 7,913 lb/yr (see Table B-6) to 9,045 lb/yr.

[b] Additional heat input based on a 36,000 lb/hr increase in steam production during the crop off-season (May - September; 3,700 hr/yr). Typical operation is for only Boiler No. 7 to operate; however Boiler No. 2 will operate when Boiler No. 7 is down for maintenance. Therefore it is assumed that Boiler No. 2 operates for 30 days (720 hours) during the off-season, and Boiler No. 7 operates for 2,980 hours during the off-season. The heat input from this additional operation is calculated by mulitplying the 36,000 lb/hr steam increase by the additional hours of operation, and they multiplying by the highest hourly steam enthalpy (Btu/lb steam) for each boiler over the last 10 years (see Table B-7).

References:

1. Based on maximum permitted sulfur content of 0.05-percent (Permit No. 0510003-032-AV).
2. SO_2 emission factor based on stoichiometric conversion of sulfur in fuel (lb S/lb fuel oil x 6.98 lb/gallon x 2 lb SO_2/lb S). Emission factors based on AP-42 Table 1.3-1: NO_x - 24 lb/10^3 gal; CO - 5 lb/10^3 gal; PM - 2 lb/10^3 gal. Emission factors are divided by fuel oil heat content of 138,000 Btu/gal for No. 2 fuel oil.
3. Based on test data for Boiler No. 1 (EU 001) performed 2/7/2005. Emission factor is 0.001 lb/ton bagasse. Emission factor is divided by fuel heat content of 7.2 MMBtu/ton.
4. Based on average test data for Boiler No. 7 (EU 014) performed 11/18/1997 (0.0140 lb/MMBtu), 2/4/2005 (0.0653 lb/MMBtu), and 1/24/2008 (0.0387 lb/MMBtu).
5. Based stack testing performed February 2006 for distillate oil firing in Boiler No. 2 (0.139 lb/MMBtu).
6. Based stack testing performed 3/1/1999 (NO_x - 0.099 lb/MMBtu; CO - 15.530 lb/MMBtu; VOC - 1.730 lb/MMBtu) and 1/28/2000 (NO_x - 0.097 lb/MMBtu; CO - 18.785 lb/MMBtu; VOC - 2.278 lb/MMBtu).
7. Based on highest 5-year average stack test result from the last 10 years or highest annual average CEMS value (see Table B-3).
8. Based on manufacturer design specifications provided by BSP Thermal Systems, Inc. Factor is 3 lb/hr for NOx and CO, divided by 90 gal/hr fuel oil usage, and then divided by fuel heat content of 138,000 Btu/gal.
9. Based average of stack tests performed 1/20/2000 (PM - 0.40 lb/hr; VOC - lb/hr), 9/29/2005 (PM - 0.386 lb/hr; VOC - 0.50 lb/hr), and 4/27/2011 (PM - 0.538 lb/hr; 0.0927 VOC - 0.391 lb/hr). PM_{10} and $PM_{2.5}$ emissions are assumed to be 100-percent of PM emissions.
10. Maximum permitted emission rates (Permit No. 0510003-032-AV).
11. Based on 99-percent confidence limit of stack test values (see Table B-4).
12. AP-42 Table 1.3-7 for uncontrolled PM emissions for fuel oil firing.
13. Based on historical assumption that 93-percent of PM is PM_{10}, and 65-percent of PM is $PM_{2.5}$.
14. Assumed that PM_{10} and $PM_{2.5}$ emissions are 100-percent of PM emissions.
15. Based on average of PM_{10} stack tests performed 5/25/2006 and 2/21/2007. $PM_{2.5}$ is assumed to be 100-percent of PM_{10}.
16. AP-42 Table 1.3-3. Emission factor is 0.20 lb/10^3 gal for distillate oil. Emission factor is divided by fuel heat content of 138,000 Btu/gal for No. 2 fuel oil.
17. Based on similar derivation of sulfuric acid mist from AP-42 for fuel oil: 3.6-percent of SO_2 becomes SO_3 then multiply the ratio of sulfuric acid mist and sulfur trioxide molecular weights (98/80).
18. AP-42 Table 1.3-10 for distillate oil firing.
19. Based on average values reported for metals analysis for bagasse.
20. Federal Register, Vol. 74, No. 209, Friday October 30, 2009, Tables C-1 and C-2. Mandatory reporting of greenhouse gases.
21. Based on bagasse analysis of 23-percent carbon. The carbon content is multiplied by the ratio of molecular weights of CO_2 (44 lb/lbmol) to C (12 lb/lbmol), multiplied by 2,000 lb/ton, and divided by bagass heat content of 7.2 MMBtu/ton.

Table 4-5: Scenario 1 - PSD Applicability Analysis

Emissions Category	Pollutant Emission Rate (TPY)																
	SO_2	NO_x	CO	PM	PM_{10}	$PM_{2.5}$	VOC	SAM	Lead	Mercury	Fluoride	Biogenic CO_2	Non-Biogenic CO_2	CH_4	N_2O	GHG [a]	Non-Biogenic CO_2e [a]
PROJECTED ACTUAL Emissions [b]																	
Boiler No. 2 (EU 002)																	
- No. 2 Fuel Oil	1.43	3.94	0.19	0.077	0.043	0.033	0.0077	0.064	4.81E-05	1.60E-05	--	--	871.29	0.035	0.0071	871.33	874.22
- Bagasse	3.78	66.11	11,968	124.81	116.08	81.13	1,398	0.17	0.021	0.0032	--	163,409	--	49.21	6.46	55.67	3,036
Boiler No. 8 (EU 028)																	
- No. 2 Fuel Oil	12.39	--	--	3.55	1.95	1.49	--	0.55	--	--	--	--	--	--	--	--	--
- Bagasse	68.14	318.22	1,152	24.18	24.18	15.72	56.43	3.03	0.064	0.011	--	584,474	--	176.02	23.10	199.12	10,858
- Wood/Bark	--	3.23	11.68	--	--	--	0.43	--	0.37	8.85E-05	--	5,231	--	1.78	0.23	2.02	110.09
GCRF - No. 2 Fuel Oil (EU 017)	1.50	7.15	7.15	1.93	1.93	1.93	1.44	0.067	2.67E-04	8.88E-05	--	--	4,828	0.20	0.039	4,829	4,845
White Sugar Dryer No. 1 (EU 016)	--	--	--	7.14	7.14	7.14	--	--	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	4.52	--	--	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	25.11	11.19	11.19	--	--	--	--	--	--	--	--	--	--	--
-- Total	**87.23**	**398.64**	**13,139**	**190.39**	**166.11**	**122.23**	**1,461**	**3.88**	**0.46**	**0.015**	**--**	**753,114**	**5,700**	**227.24**	**29.84**	**5,957**	**19,723**
BASELINE ACTUAL Emissions [c]																	
Boiler No. 2 (EU 002)																	
- No. 2/6 Fuel Oil	0.10	0.83	1.59	1.17	0.73	0.27	0.089	0.0044	5.17E-05	1.79E-05	0.012	--	1,655	0.039	0.0079	1,655	1,659
- Bagasse	2.63	46.09	13,648	159.33	148.18	103.56	1,594	0.12	0.0070	0.0022	--	110,171	--	33.18	4.35	37.53	2,047
Boiler No. 8 (EU 028)																	
- Fuel Oil	0.36	2.84	--	--	--	--	--	0.016	4.09E-04	6.77E-05	--	--	13,434	0.15	0.030	13,434	13,446
- Bagasse	74.93	315.82	--	--	--	--	--	3.33	0.061	0.012	--	586,173	--	176.53	23.17	199.70	10,890
- Wood/Bark	1.39	7.10	--	--	--	--	--	0.062	0.25	1.95E-04	--	11,520	--	3.93	0.52	4.45	242.43
GCRF - No. 2 Fuel Oil (EU 017)	0.47	5.55	4.80	1.49	1.49	1.49	6.52	0.021	1.98E-04	6.89E-05	--	--	3,182	0.15	0.030	3,182	3,195
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.22	6.22	6.22	--	--	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.69	0.69	0.69	--	--	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.01	1.01	1.01	--	--	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	3.15	--	--	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.85	0.85	0.85	--	--	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
-- Total	**79.88**	**378.24**	**13,654**	**171.55**	**159.95**	**114.88**	**1,604**	**3.55**	**0.32**	**0.014**	**0.012**	**707,863**	**18,271**	**213.98**	**28.11**	**18,513**	**31,478**
Increase Due to Project [d]	**7.35**	**20.40**	**-514.96**	**18.85**	**6.16**	**7.35**	**-143.07**	**0.33**	**0.14**	**8.56E-04**	**-0.012**	**45,251**	**-12,571**	**13.27**	**1.73**	**-12,556**	**-11,755**
PSD SIGNIFICANT EMISSION RATE	40	40	100	25	15	10	40	40	0.6	0.1	3	N/A	N/A	N/A	N/A	0	75,000
PSD REVIEW TRIGGERED?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	

[a] GHG = sum of emission rates of non-biogenic CO_2, CH_4, and N_2O on a mass basis. CO_2e = sum of emission rates of CO_2, CH_4, and N_2O using global warming potentials (GWP).
GWP: Non-biogenic CO_2 = 1, CH_4 = 21, and N_2O = 310. GHG = Non-biogenic CO_2 + CH_4 + N_2O, CO_2e = Non-biogenic CO_2 + 21*CH_4 + 310*N_2O

[b] See Table 4-3 for derivation of Projected Actual Emissions.

[c] See Table 4-1 for derivation of Baseline Actual Emissions.

[d] Projected Actual Emissions minus Baseline Actual Emissions.

Table 4-6: Scenario 2 - PSD Applicability Analysis

Emissions Category	Pollutant Emission Rate (TPY)																
	SO_2	NO_x	CO	PM	PM_{10}	$PM_{2.5}$	VOC	SAM	Lead	Mercury	Fluoride	Biogenic CO_2	Non-Biogenic CO_2	CH_4	N_2O	GHG [a]	Non-Biogenic CO_2e [a]
PROJECTED ACTUAL Emissions [b]																	
Boiler No. 2 (EU 002)																	
- No. 2 Fuel Oil	1.43	3.94	0.19	0.077	0.043	0.033	0.0077	0.064	4.81E-05	1.60E-05	--	--	871.29	0.035	0.0071	871.33	874.22
- Bagasse	3.78	66.11	11,968	124.81	116.08	81.13	1,398	0.17	0.021	0.0032	--	163,409	--	49.21	6.46	55.67	3,036
Boiler No. 7 (EU 014)																	
- No. 2 Fuel Oil	5.24	2.01	0.42	0.17	0.09	0.070	0.017	0.23	1.04E-04	3.47E-05	--	--	1,883	0.076	0.015	1,884	1,890
- Bagasse	65.80	362.30	578.23	35.07	32.61	22.79	60.72	2.93	0.054	0.0081	--	413,477	--	124.52	16.34	140.86	7,681
GCRF - No. 2 Fuel Oil (EU 017)	1.50	7.15	7.15	1.93	1.93	1.93	1.44	0.067	2.67E-04	8.88E-05	--	--	4,828	0.20	0.039	4,829	4,845
White Sugar Dryer No. 1 (EU 016)	--	--	--	7.14	7.14	7.14	--	--	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	4.52	--	--	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	25.11	11.19	11.19	--	--	--	--	--	--	--	--	--	--	--
-- Total	**77.75**	**441.51**	**12,554**	**197.90**	**172.68**	**127.88**	**1,465**	**3.46**	**0.076**	**0.011**	**--**	**576,886**	**7,583**	**174.04**	**22.86**	**7,780**	**18,326**
BASELINE ACTUAL Emissions [c]																	
Boiler No. 2 (EU 002)																	
- No. 2/6 Fuel Oil	2.50	14.95	1.59	1.17	0.73	0.27	0.089	0.11	4.80E-04	3.59E-05	0.012	--	7,901	0.32	0.063	7,901	7,927
- Bagasse	4.45	77.95	13,648	159.33	148.18	103.56	1,594	0.20	0.024	0.0037	--	165,037	--	56.12	7.37	63.48	3,462
Boiler No. 7 (EU 014)																	
- No. 2 Fuel Oil	12.58	43.24	9.01	3.60	1.98	1.51	0.36	0.56	0.0022	7.46E-04	--	--	40,538	1.64	0.33	40,540	40,675
- Bagasse	53.61	287.45	318.56	18.02	16.76	11.71	37.41	2.38	0.042	0.0063	--	342,185	--	96.15	12.62	108.76	5,931
GCRF - No. 2 Fuel Oil (EU 017)	1.01	4.80	4.80	1.49	1.49	1.49	6.52	0.045	1.79E-04	5.96E-05	--	--	3,240	0.13	0.026	3,241	3,251
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.22	6.22	6.22	--	--	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.69	0.69	0.69	--	--	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.01	1.01	1.01	--	--	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	3.15	--	--	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.85	0.85	0.85	--	--	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
-- Total	**74.14**	**428.39**	**13,982**	**193.17**	**178.69**	**128.11**	**1,642**	**3.30**	**0.069**	**0.011**	**0.012**	**507,222**	**51,680**	**154.35**	**20.40**	**51,855**	**61,246**
Increase Due to Project [d]	**3.62**	**13.12**	**-1,427**	**4.73**	**-6.01**	**-0.22**	**-176.97**	**0.16**	**0.0069**	**6.98E-04**	**-0.012**	**69,664**	**-44,097**	**19.69**	**2.46**	**-44,075**	**-42,920**
PSD SIGNIFICANT EMISSION RATE	40	40	100	25	15	10	40	40	0.6	0.1	3	N/A	N/A	N/A	N/A	0	75,000
PSD REVIEW TRIGGERED?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	

[a] GHG = sum of emission rates of non-biogenic CO_2, CH_4, and N_2O on a mass basis. CO_2e = sum of emission rates of CO_2, CH_4, and N_2O using global warming potentials (GWP).
GWP: Non-biogenic CO_2 = 1, CH_4 = 21, and N_2O = 310. GHG = Non-biogenic CO_2 + CH_4 + N_2O, CO_2e = Non-biogenic CO_2 + 21*CH_4 + 310*N_2O

[b] See Table 4-4 for derivation of Projected Actual Emissions.

[c] See Table 4-2 for derivation of Baseline Actual Emissions.

[d] Projected Actual Emissions minus Baseline Actual Emissions.

APPENDIX A

DERIVATION OF BASELINE ACTUAL EMISSIONS
SCENARIO 1

Table A-1: Emission Factors Used to Determine Baseline Actual Annual Emissions for Refinery Sources (2001 - 2010)

Source Description	Emissions Unit ID No.	Operating Hours	Annual Production / Usage Rate	Emission Factor	Pollutant Emission Factors PM	PM_{10}	$PM_{2.5}$
2001 Actual Emission Factors							
White Sugar Dryer No. 1	016	7,416	461,703 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	8,760	461,703 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	461,703 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	8,760	461,703 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	6,834 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	7,416	205,037 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	--	-- --	--	--	--	--
2002 Actual Emission Factors							
White Sugar Dryer No. 1	016	7,416	464,885 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	7,416	464,885 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	464,885 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	7,416	464,885 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	6,834 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	7,416	181,250 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	--	-- --	--	--	--	--
2003 Actual Emission Factors							
White Sugar Dryer No. 1	016	7,848	543,880 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	7,848	543,880 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	543,880 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	8,760	543,880 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	5,755 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	8,760	203,260 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	--	-- --	--	--	--	--
2004 Actual Emission Factors							
White Sugar Dryer No. 1	016	7,200	536,744 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	7,200	536,744 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	536,744 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	8,760	536,744 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	5,036 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	8,760	196,742 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	--	-- --	--	--	--	--
2005 Actual Emission Factors							
White Sugar Dryer No. 1	016	7,680	475,793 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	7,680	553,110 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	553,110 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	8,760	553,110 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	5,036 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	8,760	193,375 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	1,248	77,316 tons sugar	lb/ton sugar	0.0838 [C]	0.0223 [D]	0.0223 [D]
2006 Actual Emission Factors							
White Sugar Dryer No. 1	016	7,752	413,690 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	8,208	572,153 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	572,153 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	8,760	572,153 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	7,913 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	8,189	204,733 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	6,072	158,463 tons sugar	lb/ton sugar	0.0838 [C]	0.0223 [D]	0.0223 [D]
2007 Actual Emission Factors							
White Sugar Dryer No. 1	016	8,160	293,853 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	8,256	576,184 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	576,184 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	8,760	576,184 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	5,396 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	8,215	205,385 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	7,824	282,330 tons sugar	lb/ton sugar	0.0838 [C]	0.0223 [D]	0.0223 [D]
2008 Actual Emission Factors							
White Sugar Dryer No. 1	016	8,280	340,512 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	8,640	682,012 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	682,012 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	8,760	682,012 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	5,036 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	8,760	244,626 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	8,304	341,499 tons sugar	lb/ton sugar	0.0838 [C]	0.0223 [D]	0.0223 [D]
2009 Actual Emission Factors							
White Sugar Dryer No. 1	016	8,304	351,324 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	8,592	702,648 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	702,648 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	8,760	702,648 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	3,957 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	8,760	702,648 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	8,304	351,324 tons sugar	lb/ton sugar	0.0838 [C]	0.0223 [D]	0.0223 [D]
2010 Actual Emission Factors							
White Sugar Dryer No. 1	016	8,184	351,382 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	8,568	702,765 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	702,765 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	8,760	702,765 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	1,439 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	8,760	702,765 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	8,184	351,382 tons sugar	lb/ton sugar	0.0838 [C]	0.0223 [D]	0.0223 [D]

[A] Maximum permitted emission rates (Permit No. 0510003-032-AV).

[B] Assumed that PM_{10} and $PM_{2.5}$ emissions are 100% of PM emissions.

[C] Based on average stack test values (see Table A-3).

[D] Based on average of PM_{10} stack tests performed 5/25/2006 and 2/21/2007 (see Table A-3). $PM_{2.5}$ is assumed to be 100% of PM_{10}.

Table A-2: Emission Factors Used to Determine Baseline Actual Annual Emissions for Boilers and Granular Carbon Regeneration Furnace (2001 - 2010)

Source Description	Emissions Unit ID No.	Operating Hours	Sulfur Content Original (%)	Sulfur Content Revised (%)	Annual Process / Fuel Usage	Heat Input Rate (MMBtu)	Pollutant Emission Factors (lb/MMBtu) SO_2	NO_x	CO	PM	PM_{10}	$PM_{2.5}$	VOC	SAM	Lead	Mercury	Fluoride	CO_2	CH_4	N_2O
2001 Actual Emission Factors																				
Boiler No. 2	002	5,087																		
- *No. 6 Fuel Oil*			1.34	0.05	291.39 x10^3 gal	43,709	0.0523 [A]	0.3133 [A]	0.0333 [A]	0.0245 [A]	0.0152 [B]	0.0056 [B]	0.0019 [C]	2.33E-03 [D]	1.01E-05 [E]	7.53E-07 [E]	2.49E-04 [E]	165.57 [F]	0.0066 [F]	0.0013 [F]
- *Bagasse*			--	--	215,691 tons	1,552,975	0.0056 [G]	0.0980 [H]	17.16 [H]	0.1930 [I]	0.1795 [J]	0.1254 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 8	028	--																		
- *No. 2 Fuel Oil*			--	--	-- --	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- *Bagasse*			--	--	-- --	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- *Wood/Bark*			--	--	-- --	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GCRF - No. 2 Fuel Oil	017	4,560	0.05	0.05	190.760 x10^3 gal	26,325	0.0506 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	2.25E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
2002 Actual Emission Factors																				
Boiler No. 2	002	5,545																		
- *No. 6 Fuel Oil*			1.47	0.05	732.81 x10^3 gal	109,922	0.0523 [A]	0.3133 [A]	0.0333 [A]	0.0245 [A]	0.0152 [B]	0.0056 [B]	0.0019 [C]	2.33E-03 [D]	1.01E-05 [E]	7.53E-07 [E]	2.49E-04 [E]	165.57 [F]	0.0066 [F]	0.0013 [F]
- *Bagasse*			--	--	225,369 tons	1,622,657	0.0056 [G]	0.0980 [H]	17.16 [H]	0.1948 [I]	0.1812 [J]	0.1266 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 8	028	--																		
- *No. 2 Fuel Oil*			--	--	-- --	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- *Bagasse*			--	--	-- --	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- *Wood/Bark*			--	--	-- --	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GCRF - No. 2 Fuel Oil	017	5,928	0.05	0.05	290.420 x10^3 gal	40,078	0.0506 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	2.25E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
2003 Actual Emission Factors																				
Boiler No. 2	002	5,425																		
- *No. 6 Fuel Oil*			1.476	0.05	539.74 x10^3 gal	80,961	0.0523 [A]	0.3133 [A]	0.0333 [A]	0.0245 [A]	0.0152 [B]	0.0056 [B]	0.0019 [C]	2.33E-03 [D]	1.01E-05 [E]	7.53E-07 [E]	2.49E-04 [E]	165.57 [F]	0.0066 [F]	0.0013 [F]
- *Bagasse*			--	--	216,540 tons	1,559,088	0.0056 [G]	0.0980 [H]	17.16 [H]	0.2060 [I]	0.1916 [J]	0.1339 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 8	028	--																		
- *No. 2 Fuel Oil*			--	--	-- --	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- *Bagasse*			--	--	-- --	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- *Wood/Bark*			--	--	-- --	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GCRF - No. 2 Fuel Oil	017	7,584	0.05	0.05	285.630 x10^3 gal	39,417	0.0506 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	2.25E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
2004 Actual Emission Factors																				
Boiler No. 2	002	4,570																		
- *No. 6 Fuel Oil*			1.484	0.05	552.33 x10^3 gal	82,850	0.0523 [A]	0.3133 [A]	0.0333 [A]	0.0245 [A]	0.0152 [B]	0.0056 [B]	0.0019 [C]	2.33E-03 [D]	1.01E-05 [E]	7.53E-07 [E]	2.49E-04 [E]	165.57 [F]	0.0066 [F]	0.0013 [F]
- *Bagasse*			--	--	174,851 tons	1,258,927	0.0056 [G]	0.0980 [H]	17.16 [H]	0.1886 [I]	0.1754 [J]	0.1226 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 8	028	--																		
- *No. 2 Fuel Oil*			--	--	-- --	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- *Bagasse*			--	--	-- --	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- *Wood/Bark*			--	--	-- --	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GCRF - No. 2 Fuel Oil	017	6,432	0.05	0.05	262.150 x10^3 gal	36,177	0.0506 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	2.25E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
2005 Actual Emission Factors																				
Boiler No. 2	002	2,965																		
- *No. 2 Fuel Oil*			0.0315	0.0315	208.24 x10^3 gal	28,737	0.0319 [M]	0.139 [Q]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	1.42E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- *Bagasse*			--	--	95,087 tons	684,626	0.0056 [G]	0.0980 [H]	17.16 [H]	0.1914 [I]	0.1780 [J]	0.1244 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 8	028	5,002																		
- *No. 2 Fuel Oil*			0.0315	0.0315	1,758.99 x10^3 gal	242,741	0.0319 [M]	0.1270 [I]	0.3529 [I]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	1.42E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- *Bagasse*			--	--	313,290 tons	2,255,688	0.0299 [I]	0.1270 [I]	0.3529 [I]	0.0106 [I]	0.0106 [S]	0.0069 [S]	0.0226 [I]	1.33E-03 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
- *Wood/Bark*			--	--	0 tons	--	0.0250 [R]	0.1270 [I]	0.3529 [I]	0.0106 [T]	0.0106 [S]	0.0069 [S]	0.0170 [U]	1.11E-03 [D]	8.10E-04 [V]	3.50E-06 [W]	--	206.79 [F]	0.0705 [F]	0.0093 [F]
GCRF - No. 2 Fuel Oil	017	7,680	0.0315	0.0315	310.860 x10^3 gal	42,899	0.0319 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	1.42E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]

Table A-2: Emission Factors Used to Determine Baseline Actual Annual Emissions for Boilers and Granular Carbon Regeneration Furnace (2001 - 2010)

Source Description	Emissions Unit ID No.	Operating Hours	Sulfur Content Original (%)	Sulfur Content Revised (%)	Annual Process / Fuel Usage	Heat Input Rate (MMBtu)	Pollutant Emission Factors (lb/MMBtu) SO_2	NO_x	CO	PM	PM_{10}	$PM_{2.5}$	VOC	SAM	Lead	Mercury	Fluoride	CO_2	CH_4	N_2O
2006 Actual Emission Factors																				
Boiler No. 2	002	1,851																		
- No. 2 Fuel Oil			0.0407	0.0407	86.02 x10^3 gal	11,871	0.0412 [M]	0.139 [Q]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	1.83E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	69,389 tons	499,601	0.0056 [G]	0.0980 [H]	17.16 [H]	0.1778 [I]	0.1654 [J]	0.1156 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 8	028	7,448																		
- No. 2 Fuel Oil			0.0407	0.0407	629.06 x10^3 gal	86,810	0.0412 [M]	0.1246 [I]	0.3707 [I]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	1.83E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	508,392 tons	3,660,422	0.0299 [I]	0.1246 [I]	0.3707 [I]	0.0106 [I]	0.0106 [S]	0.0069 [S]	0.0226 [I]	1.33E-03 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
- Wood/Bark			--	--	92,100 tons	828,900	0.0250 [R]	0.1246 [I]	0.3707 [I]	0.0106 [T]	0.0106 [S]	0.0069 [S]	0.0170 [U]	1.11E-03 [D]	8.10E-04 [V]	3.50E-06 [W]	--	206.79 [F]	0.0705 [F]	0.0093 [F]
GCRF - No. 2 Fuel Oil	017	7,272	0.0407	0.0407	254.830 x10^3 gal	35,167	0.0412 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	1.83E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
2007 Actual Emission Factors																				
Boiler No. 2	002	1,800																		
- No. 2 Fuel Oil			0.0407	0.0407	80.38 x10^3 gal	11,092	0.0412 [M]	0.139 [Q]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	1.83E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	56,995 tons	410,364	0.0056 [G]	0.0980 [H]	17.16 [H]	0.1789 [I]	0.1664 [J]	0.1163 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 8	028	7,336																		
- No. 2 Fuel Oil			0.0407	0.0407	689.148 x10^3 gal	95,102	0.0412 [M]	0.1233 [I]	0.4616 [I]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	1.83E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	593,316 tons	4,271,875	0.0299 [I]	0.1233 [I]	0.4616 [I]	0.0106 [I]	0.0106 [S]	0.0069 [S]	0.0226 [I]	1.33E-03 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
- Wood/Bark			--	--	45,382 tons	408,438	0.0250 [R]	0.1233 [I]	0.4616 [I]	0.0106 [T]	0.0106 [S]	0.0069 [S]	0.0170 [U]	1.11E-03 [D]	8.10E-04 [V]	3.50E-06 [W]	--	206.79 [F]	0.0705 [F]	0.0093 [F]
GCRF - No. 2 Fuel Oil	017	8,064	0.0407	0.0407	383.523 x10^3 gal	52,926	0.0412 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	1.83E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
2008 Actual Emission Factors																				
Boiler No. 2	002	4,724																		
- No. 2 Fuel Oil			0.00071	0.00071	103.818 x10^3 gal	14,327	0.0007 [M]	0.139 [Q]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	3.19E-05 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	154,557 tons	1,112,810	0.0056 [G]	0.0980 [H]	17.16 [H]	0.1640 [I]	0.1525 [J]	0.1066 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 8	028	7,647																		
- No. 2 Fuel Oil			0.00071	0.00071	406.85 x10^3 gal	56,145	0.0007 [M]	0.1251 [I]	0.3726 [I]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	3.19E-05 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	769,112 tons	5,537,606	0.0299 [I]	0.1251 [I]	0.3726 [I]	0.0106 [I]	0.0106 [S]	0.0069 [S]	0.0226 [I]	1.33E-03 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
- Wood/Bark			--	--	0 tons	--	0.0250 [R]	0.1251 [I]	0.3726 [I]	0.0106 [T]	0.0106 [S]	0.0069 [S]	0.0170 [U]	1.11E-03 [D]	8.10E-04 [V]	3.50E-06 [W]	--	206.79 [F]	0.0705 [F]	0.0093 [F]
GCRF - No. 2 Fuel Oil	017	8,184	0.00071	0.00071	332.676 x10^3 gal	45,909	0.0007 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	3.19E-05 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
2009 Actual Emission Factors																				
Boiler No. 2	002	2,987																		
- No. 2 Fuel Oil			0.04	0.04	69.108 x10^3 gal	9,537	0.0405 [M]	0.139 [Q]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	1.80E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	106,717 tons	768,362	0.0056 [G]	0.0980 [H]	17.16 [H]	0.1545 [I]	0.1437 [J]	0.1005 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 8	028	7,034																		
- No. 2 Fuel Oil			0.04	0.04	247.149 x10^3 gal	34,107	0.0405 [M]	0.1275 [I]	0.4034 [I]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	1.80E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	621,022 tons	4,471,358	0.0299 [I]	0.1275 [I]	0.4034 [I]	0.0106 [I]	0.0106 [S]	0.0069 [S]	0.0226 [I]	1.33E-03 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
- Wood/Bark			--	--	24,758 tons	222,822	0.0250 [R]	0.1275 [I]	0.4034 [I]	0.0106 [T]	0.0106 [S]	0.0069 [S]	0.0170 [U]	1.11E-03 [D]	8.10E-04 [V]	3.50E-06 [W]	--	206.79 [F]	0.0705 [F]	0.0093 [F]
GCRF - No. 2 Fuel Oil	017	8,088	0.04	0.04	333.139 x10^3 gal	45,973	0.0405 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	1.80E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
2010 Actual Emission Factors																				
Boiler No. 2	002	4,544																		
- No. 2 Fuel Oil			0.002	0.002	74.415 x10^3 gal	10,269	0.0020 [M]	0.139 [Q]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	9.00E-05 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	186,189 tons	1,340,560	0.0056 [G]	0.0980 [H]	17.16 [H]	0.1391 [I]	0.1294 [J]	0.0904 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 8	028	7,373																		
- No. 2 Fuel Oil			0.002	0.002	201.356 x10^3 gal	27,787	0.0020 [M]	0.1270 [I]	0.3941 [I]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	9.00E-05 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	655,666 tons	4,720,795	0.0299 [I]	0.1270 [I]	0.3941 [I]	0.0106 [I]	0.0106 [S]	0.0069 [S]	0.0226 [I]	1.33E-03 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
- Wood/Bark			--	--	10,000 tons	90,000	0.0250 [R]	0.1270 [I]	0.3941 [I]	0.0106 [T]	0.0106 [S]	0.0069 [S]	0.0170 [U]	1.11E-03 [D]	8.10E-04 [V]	3.50E-06 [W]	--	206.79 [F]	0.0705 [F]	0.0093 [F]
GCRF - No. 2 Fuel Oil	017	7,920	0.002	0.002	355.503 x10^3 gal	49,059	0.0020 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	9.00E-05 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]

Table A-2: Emission Factors Used to Determine Baseline Actual Annual Emissions for Boilers and Granular Carbon Regeneration Furnace (2001 - 2010)

Source Description	Emissions Unit ID No.	Operating Hours	Sulfur Content Original (%)	Sulfur Content Revised (%)	Annual Process / Fuel Usage	Heat Input Rate (MMBtu)	Pollutant Emission Factors (lb/MMBtu) SO_2	NO_x	CO	PM	PM_{10}	$PM_{2.5}$	VOC	SAM	Lead	Mercury	Fluoride	CO_2	CH_4	N_2O

[A] AP-42, Table 1.3-1. Original sulfur content reported in the AOR. Sulfur content reduced to the current limit of 0.05-percent in Permit No. 0510003-032-AV. SO_2 emission factor is 157(S) lb/10^3 gal, where S is the sulfur content reported in the AOR. A SO_2 removal efficiency of 50-percent in the wet scrubber was applied. NOx emission factor is 47 lb/10^3 gal for No. 6 fuel oil and 24 lb/10^3 gal for No. 2 fuel oil. CO emission factors are 5 lb/10^3 gal for both No. 2 and No. 6 fuel oils. PM emission factor is 9.19(S)+3.22 lb/10^3 gal for No. 6 fuel oil, and 2 lb/10^3 gal for No. 2 fuel oil. Emission factors are divided by fuel oil heat content of 150,000 Btu/gal for No. 6 fuel oil and 138,000 Btu/gal for No. 2 fuel oil.

[B] AP-42 Table 1.3-7 for uncontrolled PM emissions for fuel oil firing. No. 6 Fuel Oil: 62-percent of PM emissions are PM_{10}, 23-percent of PM emissions are $PM_{2.5}$. No. 2 Fuel Oil: 55-percent of PM emissions are PM_{10}, 42-percent of PM emissions are $PM_{2.5}$.

[C] AP-42 Table 1.3-3. Emission factor is 0.28 lb/10^3 gal for residual oil, 0.20 lb/10^3 gal for distillate oil. Emission factor is divided by fuel heat content of 150,000 Btu/gal for No. 6 fuel oil and 138,000 Btu/gal for No. 2 fuel oil.

[D] Based on similar derivation of sulfuric acid mist from AP-42 for fuel oil: 3.6-percent of SO_2 becomes SO_3 then multiply the ratio of sulfuric acid mist and sulfur trioxide molecular weights (98/80).

[E] AP-42 Table 1.3-11 for No. 6 fuel oil firing. Emission factors are 0.00151 lb/10^3 gal for Lead, 0.000113 lb/10^3 gal for Mercury, and 0.0373 lb/10^3 gal for Fluoride. Emission factor is divided by fuel heat content of 150,000 Btu/gal for No. 6 fuel oil and 138,000 Btu/gal for No. 2 fuel oil.

[F] Federal Register, Vol. 74, No. 209, Friday October 30, 2009, Tables C-1 and C-2. Mandatory reporting of greenhouse gases.

[G] Based on test data for Boiler No. 1 (EU 001) performed 12/8/2000 (0.0101 lb/MMBtu) and 2/7/2005 (0.0001 lb/MMBtu) and Boiler No. 4 (EU 009) performed 1/5/2000 (0.0002 lb/MMBtu) and 2/10/2005 (0.0120 lb/MMBtu).

[H] Based stack testing performed 3/1/1999 (NO_x - 0.099 lb/MMBtu; CO - 15.530 lb/MMBtu; VOC - 1.730 lb/MMBtu) and 1/28/2000 (NO_x - 0.097 lb/MMBtu; CO - 18.785 lb/MMBtu; VOC - 2.278 lb/MMBtu).

[I] Based on 5-year average stack tests (see Table A-4 for Boiler No. 2 and Table A-5 for Boiler No. 8). NO_x and CO emission factors for Boiler No. 8 are measured by a CEMS.

[J] Based on historical assumption that 93-percent of PM is PM_{10}, and 65-percent of PM is $PM_{2.5}$.

[K] Based on average values reported for metals analysis for bagasse.

[L] Based on bagasse analysis of 23-percent carbon. The carbon content is multiplied by the ratio of molecular weights of CO_2 (44 lb/lbmol) to C (12 lb/lbmol), multiplied by 2,000 lb/ton, and divided by bagass heat content of 7.2 MMBtu/ton.

[M] Based on stoichiometric conversion of sulfur in fuel (lb S/lb fuel oil x 6.98 lb/gallon x 2 lb SO_2/lb S).

[N] Based on manufacturer design specifications provided by BSP Thermal Systems, Inc. Factor is 3 lb/hr for NOx and CO, divided by 90 gal/hr fuel oil usage, and then divided by fuel heat content of 138,000 Btu/gal.

[O] Factors are in lb/hr. Based average of stack tests performed 1/20/2000 (PM - 0.40 lb/hr; VOC - lb/hr), 9/29/2005 (PM - 0.386 lb/hr; VOC - 0.50 lb/hr), and 4/27/2011 (PM - 0.538 lb/hr; 0.0927 VOC - 0.391 lb/hr). PM_{10} and $PM_{2.5}$ emissions are assumed to be 100-percent of PM emissions.

[P] AP-42 Table 1.3-10 for distillate oil firing. No emission factor exists for fluoride emissions from distillate oil firing.

[Q] Based stack testing performed February 2006 for distillate oil firing in Boiler No. 2 (0.139 lb/MMBtu).

[R] AP-42 Table 1.6-2.

[S] Based on assumption that 100-percent of PM emissions are PM_{10}, and 65-percent of PM emissions are $PM_{2.5}$.

[T] Assumed to be the same as bagasse.

[U] AP-42 Table 1.6-3.

[V] Based on wood chip average reported metal analysis for wood chips (2006).

[W] AP-42 Table 1.6-4.

Table A-3: White Sugar Dryer No. 2 (EU 029) Stack Tests

Test Date	Run Number	Sugar Production Rate (TPH)	Measured Rate (lb/hr)	Corrected Rate (lb/hr) [a]	(lb/ton sugar)
			PM Emissions		
February 20, 2007	1	84.8	4.78	4.78	0.0564
February 20, 2007	2	81.6	5.38	5.38	0.0659
February 20, 2007	3	77.2	5.88	5.88	0.0762
February 22, 2007	1	87.6	9.36	9.36	0.1068
February 22, 2007	2	72.5	7.43	7.43	0.1025
February 22, 2007	3	74.5	7.07	7.07	0.0949
Average:				**6.65**	**0.0838**
99% Confidence:				**9.98**	**0.1251**
			PM_{10} Emissions		
May 23, 2006	1	42.5	2.37	2.37	0.0558
May 23, 2006	2	42.5	1.59	1.59	0.0374
May 23, 2006	3	42.5	1.13	1.13	0.0266
May 23, 2006	4	85.0	1.02	1.02	0.0120
May 23, 2006	5	85.0	1.75	1.75	0.0206
May 23, 2006	6	85.0	1.06	1.06	0.0125
May 25, 2006	7	85.0	1.02	1.02	0.0120
May 25, 2006	8	85.0	0.94	0.94	0.0111
May 25, 2006	9	85.0	1.26	1.26	0.0148
February 21, 2007	1	86.4	2.05	2.05	0.0237
February 21, 2007	2	82.3	1.97	1.97	0.0239
February 21, 2007	3	85.5	1.48	1.48	0.0173
Average:				**1.47**	**0.0223**
Maximum:				**2.37**	**0.0558**

[a] Maximum PM and PM_{10} emissions limited to 15 lb/hr and 4.2 lb/hr, respectively. Measured emission rates above this limit were reduced to the maximum emission rate.

Table A-4: Boiler No. 2 Stack Tests

Test Year	Test Date	Steam Rate (lb/hr)	Heat Input Rate (MMBtu/hr)	Steam to Heat Input Ratio (lb/MMBtu)	Bagasse Firing Rate (TPH)	PM Emissions lb/hr	PM Emissions (lb/MMBtu) [a]	Baseline Average Factor Reporting Year	Baseline Average Factor Averaging Period	Baseline Average Factor Emission Rate (lb/MMBtu)
Boiler No. 2 (EU 002)										
1997	January 13, 1998	187,970	396.46	474.12	55.06	67.56	0.1704			
1998	December 18, 1998	185,117	391.33	473.04	54.35	55.81	0.1426			
1999	January 13, 2000	180,083	373.77	481.80	51.91	88.97	0.2380			
2000	December 12, 2000	169,113	362.65	466.33	50.37	61.97	0.1709			
2001	December 12, 2001	196,600	404.10	486.52	56.12	98.17	0.2429	2001	1997 - 2001	0.1930
2002	December 17, 2002	179,086	366.76	488.30	50.94	65.89	0.1797	2002	1998 - 2002	0.1948
2003	November 18, 2003	188,920	400.18	472.08	55.58	79.45	0.1985	2003	1999 - 2003	0.2060
2004	November 17, 2004	195,134	413.73	471.65	57.46	62.40	0.1508	2004	2000 - 2004	0.1886
2005	December 14, 2005	176,993	369.70	478.75	51.35	68.36	0.1849	2005	2001 - 2005	0.1914
2006	November 21, 2006	168,078	354.43	474.22	49.23	62.07	0.1751	2006	2002 - 2006	0.1778
2007	November 7, 2007	155,075	322.37	481.05	44.77	59.72	0.1853	2007	2003 - 2007	0.1789
2008	November 21, 2008	165,330	343.39	481.46	47.69	42.55	0.1239	2008	2004 - 2008	0.1640
2009	November 12, 2009	172,283	356.46	483.31	49.51	36.90	0.1035	2009	2005 - 2009	0.1545
2010	November 18, 2010	195,189	405.51	481.34	56.32	43.70	0.1078	2010	2006 - 2010	0.1391
									Maximum: [b]	**0.1789**

[a] Current (Permit No. 0510003-032-AV) maximum permitted PM emission rate is 0.25 lb/MMBtu when firing carbonaceous fuel.
[b] Highest 5-year average over the last 5 years.

Table A-5: Boiler No. 8 Stack Tests and CEMS Data

Test Year	Test Date	Stack Test Emission Rate (lb/MMBtu) PM	SO_2	VOC	CEMS Annual Average Emission Rate NO_x	CO	Baseline Average Factor Reporting Year	Averaging Period [a]	Emission Rate (lb/MMBtu) NO_x	CO	PM	SO_2	VOC
Boiler No. 8 (EU 028)													
2005	March 24-26, 2005	0.0050	0.0247	0.0120	0.1270	0.3529							
2006	January 10, 2006	0.0210	0.0213	0.0123	0.1246	0.3707							
2007	January 5, 2007	0.0097	0.0317	0.0313	0.1233	0.4616	2005	2005 - 2010	0.1270	0.3529	0.0106	0.0299	0.0226
2007	November 30, 2007	0.0147	0.0140	0.0153			2006	2005 - 2010	0.1246	0.3707	0.0106	0.0299	0.0226
2008	December 11, 2008	0.0078	--	--	0.1251	0.3726	2007	2005 - 2010	0.1233	0.4616	0.0106	0.0299	0.0226
2009	January 30, 2009	--	0.0283	0.0410	0.1275	0.4034	2008	2005 - 2010	0.1251	0.3726	0.0106	0.0299	0.0226
2009	December 4, 2009	0.0073	0.0597	0.0170			2009	2005 - 2010	0.1275	0.4034	0.0106	0.0299	0.0226
2010	December 2, 2010	0.0090	--	0.0293	0.1270	0.3941	2010	2005 - 2010	0.1270	0.3941	0.0106	0.0299	0.0226
	Maximum:	**0.0210**	**0.0597**	**0.0410**	**0.1275**	**0.4616**			**0.1275**	**0.4616**	**0.0106**	**0.0299**	**0.0226**

[a] NO_x and CO emissions from Boiler No. 8 measured by a CEMS, therefore the baseline emission factors are not averaged from year to year.

Table A-6: Refinery Operational History

Year	Operating Hours: White Sugar Dryer No. 1 (EU 016)	GCRF (EU 017)	Vacuum Systems (EU 018)	Conditioning Silos (EU 019)	Sugar/Starch Bins (EU 020)	Alcohol Usage (EU 021)	Sugar Packaging (EU 022)	White Sugar Dryer No. 2 (EU 029)	Sugar Production (TPY): White Sugar Dryer No. 1 (EU 016)	White Sugar Dryer No. 2 (EU 029)	Total Production	Average Dryer Production (TPH)	GCRF Fuel Usage: Annual (gal)	Average Hourly (gal/hr)	Alcohol Usage (lbs)
2001	7,416	4,560	8,760	8,760	8,760	8,760	7,416	--	461,703	--	461,703	62.26	190,760	41.83	6,834
2002	7,416	5,928	7,416	8,760	7,416	8,760	7,416	--	464,885	--	464,885	62.69	290,420	48.99	6,834
2003	7,848	7,584	7,848	8,760	8,760	8,760	8,760	--	543,880	--	543,880	69.30	285,630	37.66	5,755
2004	7,200	6,432	7,200	8,760	8,760	8,760	8,760	--	536,744	--	536,744	74.55	262,150	40.76	5,036
2005	7,680	7,680	7,680	8,760	8,760	8,760	8,760	1,248	475,793	77,316	553,110	61.95	310,860	40.48	5,036
2006	7,752	7,272	8,208	8,760	8,760	8,760	8,189	6,072	413,690	158,463	572,153	41.39	254,830	35.04	7,913
2007	8,160	8,064	8,256	8,760	8,760	8,760	8,215	7,824	293,853	282,330	576,183	36.05	383,523	47.56	5,396
2008	8,280	8,184	8,640	8,760	8,760	8,760	8,760	8,304	340,512	341,499	682,011	41.12	332,676	40.65	5,036
2009	8,304	8,088	8,592	8,760	8,760	8,760	8,760	8,304	351,324	351,324	702,648	42.31	333,139	41.19	3,957
2010	8,184	7,920	8,568	8,760	8,760	8,760	8,760	8,184	351,382	351,382	702,764	42.94	355,503	44.89	1,439
Minimum:	**7,200**	**4,560**	**7,200**	**8,760**	**7,416**	**8,760**	**7,416**	**1,248**	**293,853**	**77,316**	**461,703**	**36.05**	**190,760**	**35.04**	**1,439**
Average:	**7,824**	**7,171**	**8,117**	**8,760**	**8,626**	**8,760**	**8,380**	**6,656**	**423,377**	**260,386**	**579,608**	**53.45**	**299,949**	**41.90**	**5,324**
Maximum:	**8,304**	**8,184**	**8,760**	**8,760**	**8,760**	**8,760**	**8,760**	**8,304**	**543,880**	**351,382**	**702,764**	**74.55**	**383,523**	**48.99**	**7,913**

Table A-7: Boiler Nos. 2 and 8 Operating History

Year	Operating Hours (hours)		Steam Production (lb)			Steam Enthalpy (Btu/lb steam)	
	Boiler No. 2	Boiler No. 8	Boiler No. 2	Boiler No. 8	Total	Boiler No. 2	Boiler No. 8
2001	5,087	--	776,975,000	--	776,975,000	2,055	--
2002	5,545	--	847,248,000	--	847,248,000	2,045	--
2003	5,425	--	774,663,000	--	774,663,000	2,117	--
2004	4,570	--	633,152,000	--	633,152,000	2,119	--
2005	2,965	5,002	342,839,000	1,326,991,000	1,669,830,000	2,081	1,883
2006	1,851	7,448	242,241,000	2,465,623,737	2,707,864,737	2,111	1,856
2007	1,800	7,336	200,496,000	2,570,596,000	2,771,092,000	2,102	1,858
2008	4,724	7,647	531,487,000	3,006,300,000	3,537,787,000	2,121	1,861
2009	2,987	7,034	375,668,670	2,557,531,000	2,933,199,670	2,071	1,849
2010	4,544	7,373	650,208,390	2,633,683,000	3,283,891,390	2,078	1,837
Minimum:	**1,800**	**5,002**	**200,496,000**	**1,326,991,000**	**1,669,830,000**	**2,071**	**1,837**
Average:	**3,145**	**6,973**	**390,490,010**	**2,426,787,456**	**2,817,277,466**	**2,094**	**1,857**
Maximum:	**4,724**	**7,647**	**650,208,390**	**3,006,300,000**	**3,537,787,000**	**2,121**	**1,883**

Year	Annual Average Steam Rate (lb/hr)		Fuel Firing Rates						
			Fuel Oil (gal/yr)			Bagasse (TPY)			Wood (TPY)
	Boiler No. 2	Boiler No. 8	Boiler No. 2	Boiler No. 8	Total	Boiler No. 2	Boiler No. 8	Total	Boiler No. 8
2001	152,737	--	291,390	--	291,390	215,691	--	215,691	--
2002	152,795	--	732,810	--	732,810	225,369	--	225,369	--
2003	142,795	--	539,740	--	539,740	216,540	--	216,540	--
2004	138,545	--	552,330	--	552,330	174,851	--	174,851	--
2005	115,629	265,292	208,240	1,758,990	1,967,230	95,087	313,290	408,377	0
2006	130,870	331,045	86,020	629,060	715,080	69,389	593,316	662,705	92,100
2007	111,387	350,408	80,380	689,148	769,528	56,995	593,316	650,311	45,382
2008	112,508	393,135	103,818	406,850	510,668	154,557	769,112	923,669	0
2009	125,778	363,575	69,108	247,149	316,257	106,717	621,022	727,739	24,758
2010	143,084	357,216	74,415	201,356	275,771	186,189	655,666	841,855	10,000
Minimum:	**111,387**	**265,292**	**69,108**	**201,356**	**275,771**	**56,995**	**313,290**	**408,377**	**0**
Average:	**123,209**	**343,445**	**103,663**	**655,426**	**759,089**	**111,489**	**590,954**	**702,443**	**28,707**
Maximum:	**143,084**	**393,135**	**208,240**	**1,758,990**	**1,967,230**	**186,189**	**769,112**	**923,669**	**92,100**

Year	Heat Input Rate (MMBtu)			Percent Heat Input					No. 2 Fuel Oil Sulfur (%)
				Boiler No. 2		Boiler No. 8			
	Boiler No. 2	Boiler No. 8	Total	Fuel Oil	Bagasse	Fuel Oil	Bagasse	Wood / Bark	
2001	1,596,684	--	1,596,684	2.52%	97.48%	--	--	--	0.05
2002	1,732,578	--	1,732,578	5.84%	94.16%	--	--	--	0.05
2003	1,640,049	--	1,640,049	4.54%	95.46%	--	--	--	0.05
2004	1,341,777	--	1,341,777	5.68%	94.32%	--	--	--	0.05
2005	713,364	2,498,429	3,211,792	4.03%	95.97%	9.72%	90.28%	0.00%	0.0315
2006	511,472	4,576,133	5,087,604	2.32%	97.68%	1.90%	93.35%	18.11%	0.0407
2007	421,456	4,775,416	5,196,872	2.63%	97.37%	1.99%	89.46%	8.55%	0.0407
2008	1,127,137	5,593,752	6,720,889	1.27%	98.73%	1.00%	99.00%	0.00%	0.00071
2009	777,899	4,728,287	5,506,186	1.23%	98.77%	0.72%	94.57%	4.71%	0.04
2010	1,350,829	4,838,582	6,189,412	0.76%	99.24%	0.57%	97.57%	1.86%	0.002
Minimum:	**421,456**	**2,498,429**	**3,211,792**	**0.76%**	**95.97%**	**0.57%**	**89.46%**	**0.00%**	**0.00071**
Average:	**817,026**	**4,501,766**	**5,318,793**	**2.04%**	**97.96%**	**2.65%**	**94.04%**	**5.54%**	**0.03556**
Maximum:	**1,350,829**	**5,593,752**	**6,720,889**	**4.03%**	**99.24%**	**9.72%**	**99.00%**	**18.11%**	**0.05**

Table A-8: Baseline Actual Annual (2001 - 2010) Emissions

Source Description	Pollutant Emission Rate (TPY)														
	SO_2	NO_x	CO	PM	PM_{10}	$PM_{2.5}$	VOC	SAM	Lead	Mercury	Fluoride	Biogenic CO_2	Non-Biogenic CO_2	CH_4	N_2O
2001 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 6 Fuel Oil	1.14	6.85	0.73	0.54	0.33	0.12	0.041	0.051	2.20E-04	1.65E-05	0.0054	--	3,618	0.14	0.029
- Bagasse	4.35	76.10	13,323	149.84	139.35	97.40	1,556	0.19	0.024	0.0036	--	181,899	--	54.78	7.19
Boiler No. 8 (EU 028)															
- No. 2 Fuel Oil	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Bagasse	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Wood/Bark	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GCRF - No. 2 Fuel Oil (EU 017)	0.67	3.18	3.18	1.01	1.01	1.01	4.32	0.030	1.18E-04	3.95E-05	--	--	2,146	0.087	0.017
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.04	6.04	6.04	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	3.42	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.78	0.78	0.78	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Total	**6.16**	**86.12**	**13,326**	**160.88**	**150.19**	**108.02**	**1,564**	**0.27**	**0.024**	**0.0036**	**0.0054**	**181,899**	**5,765**	**55.01**	**7.24**
2002 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 6 Fuel Oil	2.88	17.22	1.83	1.35	0.84	0.31	0.10	0.13	5.53E-04	4.14E-05	0.014	--	9,100	0.36	0.073
- Bagasse	4.54	79.51	13,920	158.07	147.00	102.74	1,626	0.20	0.025	0.0037	--	190,061	--	57.24	7.51
Boiler No. 8 (EU 028)															
- No. 2 Fuel Oil	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Bagasse	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Wood/Bark	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GCRF - No. 2 Fuel Oil (EU 017)	1.01	4.84	4.84	1.31	1.31	1.31	6.57	0.045	1.80E-04	6.01E-05	--	--	3,267	0.13	0.027
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.04	6.04	6.04	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.67	0.67	0.67	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	0.93	0.93	0.93	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	3.42	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.78	0.78	0.78	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Total	**8.43**	**101.57**	**13,927**	**169.93**	**158.35**	**113.57**	**1,636**	**0.38**	**0.026**	**0.0038**	**0.014**	**190,061**	**12,367**	**57.73**	**7.61**
2003 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 6 Fuel Oil	2.12	12.68	1.35	0.99	0.62	0.23	0.076	0.09	4.08E-04	3.05E-05	0.010	--	6,702	0.27	0.054
- Bagasse	4.37	76.40	13,375	160.59	149.35	104.39	1,562	0.19	0.024	0.0036	--	182,615	--	55.00	7.22
Boiler No. 8 (EU 028)															
- No. 2 Fuel Oil	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Bagasse	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Wood/Bark	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GCRF - No. 2 Fuel Oil (EU 017)	1.00	4.76	4.76	1.67	1.67	1.67	6.46	0.044	1.77E-04	5.91E-05	--	--	3,214	0.13	0.026
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.40	6.40	6.40	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.71	0.71	0.71	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	2.88	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Total	**7.48**	**93.84**	**13,381**	**173.16**	**161.55**	**116.19**	**1,572**	**0.33**	**0.025**	**0.0037**	**0.010**	**182,615**	**9,916**	**55.39**	**7.30**
2004 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 6 Fuel Oil	2.17	12.98	1.38	1.02	0.63	0.23	0.077	0.10	4.17E-04	3.12E-05	0.010	--	6,859	0.27	0.055
- Bagasse	3.52	61.69	10,800	118.70	110.39	77.15	1,261	0.16	0.019	0.0029	--	147,458	--	44.41	5.83
Boiler No. 8 (EU 028)															
- No. 2 Fuel Oil	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Bagasse	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Wood/Bark	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GCRF - No. 2 Fuel Oil (EU 017)	0.91	4.37	4.37	1.42	1.42	1.42	5.93	0.041	1.63E-04	5.43E-05	--	--	2,949	0.12	0.024
White Sugar Dryer No. 1 (EU 016)	--	--	--	5.87	5.87	5.87	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.65	0.65	0.65	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	2.52	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Total	**6.61**	**79.04**	**10,806**	**130.45**	**121.76**	**88.12**	**1,270**	**0.29**	**0.020**	**0.0030**	**0.010**	**147,458**	**9,808**	**44.80**	**5.91**
2005 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.46	2.00	0.52	0.21	0.11	0.087	0.021	0.020	1.29E-04	4.31E-05	--	--	2,343	0.10	0.019
- Bagasse	1.92	33.55	5,873	65.51	60.92	42.58	686.00	0.085	0.011	0.0016	--	80,190	--	24.15	3.17
Boiler No. 8 (EU 028)															
- No. 2 Fuel Oil	3.87	15.42	42.83	1.76	0.97	0.74	0.18	0.17	0.0011	3.64E-04	--	--	19,790	0.80	0.16
- Bagasse	33.77	143.25	398.01	11.98	11.98	7.79	25.51	1.50	0.035	0.0052	--	264,208	--	79.57	10.44
- Wood/Bark	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GCRF - No. 2 Fuel Oil (EU 017)	0.68	5.18	5.18	1.69	1.69	1.69	7.03	0.030	1.93E-04	6.43E-05	--	--	3,497	0.14	0.028
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.26	6.26	6.26	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.69	0.69	0.69	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	2.52	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	3.24	0.86	0.86	--	--	--	--	--	--	--	--	--
- Total	**40.70**	**199.39**	**6,320**	**94.15**	**86.30**	**63.51**	**721.25**	**1.81**	**0.047**	**0.0072**	**--**	**344,398**	**25,630**	**104.76**	**13.82**
2006 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.24	0.83	0.22	0.086	0.047	0.036	0.0086	0.011	5.34E-05	1.78E-05	--	--	967.79	0.039	0.0079
- Bagasse	1.40	24.48	4,286	44.42	41.31	28.87	500.60	0.062	0.0077	0.0011	--	58,518	--	17.62	2.31
Boiler No. 8 (EU 028)															
- No. 2 Fuel Oil	1.79	5.41	16.09	0.63	0.35	0.26	0.063	0.079	3.91E-04	1.30E-04	--	--	7,077	0.29	0.057
- Bagasse	54.80	228.10	678.44	19.45	19.45	12.64	41.40	2.44	0.056	0.0084	--	428,744	--	129.12	16.95
- Wood/Bark	10.36	51.65	153.63	4.40	4.40	2.86	7.05	0.46	0.34	0.0015	--	85,706	--	29.24	3.84
GCRF - No. 2 Fuel Oil (EU 017)	0.72	4.25	4.25	1.60	1.60	1.60	5.77	0.032	1.58E-04	5.27E-05	--	--	2,867	0.12	0.023
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.32	6.32	6.32	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.74	0.74	0.74	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	3.96	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.86	0.86	0.86	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	6.64	1.77	1.77	--	--	--	--	--	--	--	--	--
- Total	**69.32**	**314.71**	**5,139**	**87.03**	**78.72**	**57.85**	**558.84**	**3.08**	**0.40**	**0.011**	**--**	**572,967**	**10,912**	**176.42**	**23.19**
2007 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.23	0.77	0.20	0.080	0.044	0.034	0.0080	0.010	4.99E-05	1.66E-05	--	--	904.33	0.037	0.0073
- Bagasse	1.15	20.11	3,520	36.71	34.14	23.86	411.18	0.051	0.0063	0.0009	--	48,066	--	14.48	1.90
Boiler No. 8 (EU 028)															
- No. 2 Fuel Oil	1.96	5.86	21.95	0.69	0.38	0.29	0.069	0.087	4.28E-04	1.43E-04	--	--	7,753	0.31	0.063
- Bagasse	63.96	263.30	986.04	22.70	22.70	14.75	48.31	2.84	0.066	0.010	--	500,363	--	150.69	19.78
- Wood/Bark	5.11	25.17	94.28	2.17	2.17	1.41	3.47	0.23	0.17	7.15E-04	--	42,231	--	14.41	1.89
GCRF - No. 2 Fuel Oil (EU 017)	1.09	6.39	6.39	1.78	1.78	1.78	8.68	0.048	2.38E-04	7.94E-05	--	--	4,315	0.18	0.035
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.65	6.65	6.65	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.74	0.74	0.74	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	2.70	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.86	0.86	0.86	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	11.83	3.15	3.15	--	--	--	--	--	--	--	--	--
- Total	**73.49**	**321.61**	**4,629**	**86.10**	**74.50**	**55.42**	**474.42**	**3.27**	**0.24**	**0.012**	**--**	**590,660**	**12,973**	**180.09**	**23.67**

Table A-8: Baseline Actual Annual (2001 - 2010) Emissions

Source Description	Pollutant Emission Rate (TPY)														
	SO_2	NO_x	CO	PM	PM_{10}	$PM_{2.5}$	VOC	SAM	Lead	Mercury	Fluoride	Biogenic CO_2	Non-Biogenic CO_2	CH_4	N_2O
2008 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.0051	1.00	0.26	0.10	0.057	0.044	0.010	2.29E-04	6.45E-05	2.15E-05	--	--	1,168	0.047	0.009
- Bagasse	3.12	54.53	9,547	91.25	84.86	59.31	1,115	0.14	0.017	0.0026	--	130,343	--	39.25	5.15
Boiler No. 8 (EU 028)															
- No. 2 Fuel Oil	0.020	3.51	10.46	0.41	0.22	0.17	0.041	8.97E-04	2.53E-04	8.42E-05	--	--	4,577	0.19	0.037
- Bagasse	82.91	346.50	1,032	29.42	29.42	19.12	62.63	3.69	0.085	0.013	--	648,618	--	195.33	25.64
- Wood/Bark	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GCRF - No. 2 Fuel Oil (EU 017)	0.016	5.54	5.54	1.81	1.81	1.81	7.53	7.33E-04	2.07E-04	6.89E-05	--	--	3,743	0.15	0.030
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.75	6.75	6.75	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.78	0.78	0.78	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	2.52	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	14.31	3.81	3.81	--	--	--	--	--	--	--	--	--
- Total	**86.07**	**411.08**	**10,594**	**147.62**	**130.51**	**94.60**	**1,188**	**3.83**	**0.10**	**0.015**	--	**778,961**	**9,488**	**234.97**	**30.87**
2009 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.19	0.66	0.17	0.069	0.038	0.029	0.0069	0.0086	4.29E-05	1.43E-05	--	--	777.51	0.032	0.0063
- Bagasse	2.15	37.65	6,592	59.37	55.22	38.59	769.90	0.10	0.012	0.0018	--	89,998	--	27.10	3.56
Boiler No. 8 (EU 028)															
- No. 2 Fuel Oil	0.69	2.18	6.88	0.25	0.14	0.10	0.025	0.031	1.53E-04	5.12E-05	--	--	2,781	0.11	0.023
- Bagasse	66.95	285.14	901.93	23.76	23.76	15.44	50.57	2.98	0.069	0.010	--	523,729	--	157.72	20.70
- Wood/Bark	2.79	14.21	44.95	1.18	1.18	0.77	1.89	0.12	0.09	3.90E-04	--	23,039	--	7.86	1.03
GCRF - No. 2 Fuel Oil (EU 017)	0.93	5.55	5.55	1.78	1.78	1.78	7.54	0.041	2.07E-04	6.90E-05	--	--	3,748	0.15	0.030
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.77	6.77	6.77	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.77	0.77	0.77	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	1.98	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	14.72	3.92	3.92	--	--	--	--	--	--	--	--	--
- Total	**73.70**	**345.39**	**7,551**	**111.47**	**96.38**	**70.98**	**831.91**	**3.28**	**0.17**	**0.013**	--	**636,766**	**7,306**	**192.98**	**25.35**
2010 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.010	0.71	0.19	0.074	0.041	0.031	0.0074	4.62E-04	4.62E-05	1.54E-05	--	--	837.22	0.034	0.0068
- Bagasse	3.75	65.69	11,500	93.24	86.72	60.61	1,343	0.17	0.021	0.0031	--	157,019	--	47.29	6.21
Boiler No. 8 (EU 028)															
- No. 2 Fuel Oil	0.028	1.76	5.47	0.20	0.11	0.085	0.020	0.0013	1.25E-04	4.17E-05	--	--	2,265	0.09	0.018
- Bagasse	70.68	299.71	930.12	25.08	25.08	16.30	53.39	3.14	0.073	0.011	--	552,945	--	166.52	21.86
- Wood/Bark	1.13	5.71	17.73	0.48	0.48	0.31	0.77	0.050	0.036	1.58E-04	--	9,306	--	3.17	0.42
GCRF - No. 2 Fuel Oil (EU 017)	0.050	5.93	5.93	1.75	1.75	1.75	8.04	0.0022	2.21E-04	7.36E-05	--	--	4,000	0.16	0.032
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.67	6.67	6.67	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.77	0.77	0.77	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	0.72	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	14.72	3.92	3.92	--	--	--	--	--	--	--	--	--
- Total	**75.65**	**379.52**	**12,460**	**145.79**	**128.34**	**93.25**	**1,406**	**3.36**	**0.13**	**0.014**	--	**719,270**	**7,102**	**217.27**	**28.54**

Table A-9: Summary of Baseline 2-Year Average Actual Annual Emissions

Source Description	Pollutant Emission Rate (TPY)														
	SO_2	NO_x	CO	PM	PM_{10}	$PM_{2.5}$	VOC	SAM	Lead	Mercury	Fluoride	Biogenic CO_2	Non-Biogenic CO_2	CH_4	N_2O
2001 - 2002 Average Emissions															
Boiler No. 2 (EU 002)															
- No. 6 Fuel Oil	2.01	12.03	1.28	0.94	0.58	0.22	0.072	0.089	3.87E-04	2.89E-05	0.010	--	6,359	0.25	0.051
- Bagasse	4.45	77.80	13,621	153.95	143.18	100.07	1,591	0.20	0.024	0.0037	--	185,980	--	56.01	7.35
Boiler No. 8 (EU 028)															
- No. 2 Fuel Oil	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Bagasse	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Wood/Bark	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GCRF - No. 2 Fuel Oil (EU 017)	0.84	4.01	4.01	1.16	1.16	1.16	5.44	0.037	1.49E-04	4.98E-05	--	--	2,707	0.11	0.022
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.04	6.04	6.04	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.73	0.73	0.73	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.01	1.01	1.01	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	3.42	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.78	0.78	0.78	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Total	**7.30**	**93.85**	**13,627**	**165.40**	**154.27**	**110.79**	**1,600**	**0.32**	**0.025**	**0.0037**	**0.010**	**185,980**	**9,066**	**56.37**	**7.42**
2002 - 2003 Average Emissions															
Boiler No. 2 (EU 002)															
- No. 6 Fuel Oil	2.50	14.95	1.59	1.17	0.73	0.27	0.089	0.11	4.80E-04	3.59E-05	0.012	--	7,901	0.32	0.063
- Bagasse	4.45	77.95	13,648	159.33	148.18	103.56	1,594	0.20	0.024	0.0037	--	186,338	--	56.12	7.37
Boiler No. 8 (EU 028)															
- No. 2 Fuel Oil	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Bagasse	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Wood/Bark	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GCRF - No. 2 Fuel Oil (EU 017)	1.01	4.80	4.80	1.49	1.49	1.49	6.52	0.045	1.79E-04	5.96E-05	--	--	3,240	0.13	0.026
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.22	6.22	6.22	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.69	0.69	0.69	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.01	1.01	1.01	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	3.15	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.85	0.85	0.85	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Total	**7.96**	**97.71**	**13,654**	**171.55**	**159.95**	**114.88**	**1,604**	**0.35**	**0.025**	**0.0038**	**0.012**	**186,338**	**11,141**	**56.56**	**7.45**
2003 - 2004 Average Emissions															
Boiler No. 2 (EU 002)															
- No. 6 Fuel Oil	2.14	12.83	1.37	1.00	0.62	0.23	0.076	0.10	4.12E-04	3.09E-05	0.010	--	6,780	0.27	0.054
- Bagasse	3.95	69.04	12,088	139.64	129.87	90.77	1,412	0.18	0.022	0.0032	--	165,037	--	49.70	6.52
Boiler No. 8 (EU 028)															
- No. 2 Fuel Oil	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Bagasse	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Wood/Bark	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GCRF - No. 2 Fuel Oil (EU 017)	0.96	4.56	4.56	1.55	1.55	1.55	6.20	0.043	1.70E-04	5.67E-05	--	--	3,081	0.12	0.025
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.13	6.13	6.13	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.68	0.68	0.68	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	2.70	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Total	**7.04**	**86.44**	**12,093**	**151.81**	**141.65**	**102.16**	**1,421**	**0.31**	**0.022**	**0.0033**	**0.010**	**165,037**	**9,862**	**50.10**	**6.60**
2004 - 2005 Average Emissions															
Boiler No. 2 (EU 002)															
- No. 6 Fuel Oil	1.31	7.49	0.95	0.61	0.37	0.16	0.049	0.058	2.73E-04	3.72E-05	0.0052	--	4,601	0.18	0.037
- Bagasse	2.72	47.62	8,337	92.10	85.66	59.87	973.72	0.12	0.015	0.0022	--	113,824	--	34.28	4.50
Boiler No. 8 (EU 028)															
- No. 2 Fuel Oil	1.93	7.71	21.42	0.88	0.48	0.37	0.088	0.086	5.46E-04	1.82E-04	--	--	9,895	0.40	0.080
- Bagasse	16.89	71.63	199.01	5.99	5.99	3.90	12.76	0.75	0.017	0.0026	--	132,104	--	39.78	5.22
- Wood/Bark	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GCRF - No. 2 Fuel Oil (EU 017)	0.80	4.78	4.78	1.56	1.56	1.56	6.48	0.036	1.78E-04	5.93E-05	--	--	3,223	0.13	0.026
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.06	6.06	6.06	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.67	0.67	0.67	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	2.52	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	1.62	0.43	0.43	--	--	--	--	--	--	--	--	--
- Total	**23.65**	**139.21**	**8,563**	**112.30**	**104.03**	**75.82**	**995.61**	**1.05**	**0.033**	**0.0051**	**0.0052**	**245,928**	**17,719**	**74.78**	**9.86**
2005 - 2006 Average Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.35	1.41	0.37	0.15	0.081	0.062	0.015	0.016	9.14E-05	3.05E-05	--	--	1,655	0.067	0.013
- Bagasse	1.66	29.01	5,080	54.96	51.12	35.73	593.30	0.074	0.009	0.0014	--	69,354	--	20.89	2.74
Boiler No. 8 (EU 028)															
- No. 2 Fuel Oil	2.83	10.41	29.46	1.19	0.66	0.50	0.12	0.13	7.41E-04	2.47E-04	--	--	13,434	0.54	0.11
- Bagasse	44.29	185.68	538.22	15.72	15.72	10.22	33.45	1.97	0.046	0.0068	--	346,476	--	104.34	13.69
- Wood/Bark	5.18	25.83	76.82	2.20	2.20	1.43	3.52	0.23	0.17	7.25E-04	--	42,853	--	14.62	1.92
GCRF - No. 2 Fuel Oil (EU 017)	0.70	4.71	4.71	1.65	1.65	1.65	6.40	0.031	1.76E-04	5.85E-05	--	--	3,182	0.13	0.026
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.29	6.29	6.29	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.71	0.71	0.71	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	3.24	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.89	0.89	0.89	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	4.94	1.31	1.31	--	--	--	--	--	--	--	--	--
- Total	**55.01**	**257.05**	**5,729**	**90.59**	**82.51**	**60.68**	**640.05**	**2.45**	**0.22**	**0.009**	**--**	**458,683**	**18,271**	**140.59**	**18.50**
2006 - 2007 Average Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.24	0.80	0.21	0.083	0.046	0.035	0.0083	0.011	5.17E-05	1.72E-05	--	--	936.06	0.038	0.0076
- Bagasse	1.27	22.29	3,903	40.56	37.73	26.37	455.89	0.057	0.0070	0.0010	--	53,292	--	16.05	2.11
Boiler No. 8 (EU 028)															
- No. 2 Fuel Oil	1.87	5.64	19.02	0.66	0.36	0.28	0.066	0.083	4.09E-04	1.36E-04	--	--	7,415	0.30	0.060
- Bagasse	59.38	245.70	832.24	21.07	21.07	13.70	44.86	2.64	0.061	0.009	--	464,554	--	139.90	18.36
- Wood/Bark	7.73	38.41	123.95	3.29	3.29	2.14	5.26	0.34	0.25	0.0011	--	63,968	--	21.82	2.86
GCRF - No. 2 Fuel Oil (EU 017)	0.91	5.32	5.32	1.69	1.69	1.69	7.22	0.040	1.98E-04	6.61E-05	--	--	3,591	0.15	0.029
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.48	6.48	6.48	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.74	0.74	0.74	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	3.33	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.86	0.86	0.86	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	9.23	2.46	2.46	--	--	--	--	--	--	--	--	--
- Total	**71.40**	**318.16**	**4,884**	**86.56**	**76.61**	**56.63**	**516.63**	**3.18**	**0.32**	**0.011**	**--**	**581,814**	**11,942**	**178.26**	**23.43**
2007 - 2008 Average Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.12	0.88	0.23	0.09	0.051	0.039	0.009	0.0052	5.72E-05	1.91E-05	--	--	1,036	0.042	0.0084
- Bagasse	2.13	37.32	6,533	63.98	59.50	41.59	763.11	0.09	0.012	0.0018	--	89,204	--	26.86	3.53
Boiler No. 8 (EU 028)															
- No. 2 Fuel Oil	0.99	4.69	16.21	0.55	0.30	0.23	0.055	0.044	3.40E-04	1.13E-04	--	--	6,165	0.25	0.050
- Bagasse	73.43	304.90	1,009	26.06	26.06	16.94	55.47	3.27	0.076	0.011	--	574,490	--	173.01	22.71
- Wood/Bark	2.55	12.59	47.14	1.09	1.09	0.71	1.74	0.11	0.083	3.57E-04	--	21,116	--	7.20	0.95
GCRF - No. 2 Fuel Oil (EU 017)	0.55	5.97	5.97	1.79	1.79	1.79	8.10	0.025	2.22E-04	7.41E-05	--	--	4,029	0.16	0.033
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.70	6.70	6.70	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.76	0.76	0.76	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	2.61	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.89	0.89	0.89	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	13.07	3.48	3.48	--	--	--	--	--	--	--	--	--
- Total	**79.78**	**366.34**	**7,612**	**116.86**	**102.51**	**75.01**	**831.09**	**3.55**	**0.17**	**0.014**	**--**	**684,810**	**11,230**	**207.53**	**27.27**

2008 - 2009 Average Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.10	0.83	0.22	0.086	0.048	0.036	0.0086	0.0044	5.37E-05	1.79E-05	--	--	972.77	0.039	0.0079
- Bagasse	2.63	46.09	8,069	75.31	70.04	48.95	942.47	0.12	0.014	0.0022	--	110,171	--	33.18	4.35
Boiler No. 8 (EU 028)															
- No. 2 Fuel Oil	0.36	2.84	8.67	0.33	0.18	0.14	0.033	0.016	2.03E-04	6.77E-05	--	--	3,679	0.15	0.030
- Bagasse	74.93	315.82	966.81	26.59	26.59	17.28	56.60	3.33	0.077	0.012	--	586,173	--	176.53	23.17
- Wood/Bark	1.39	7.10	22.47	0.59	0.59	0.38	0.95	0.062	0.045	1.95E-04	--	11,520	--	3.93	0.52
GCRF - No. 2 Fuel Oil (EU 017)	0.47	5.55	5.55	1.80	1.80	1.80	7.53	0.021	2.07E-04	6.89E-05	--	--	3,745	0.15	0.030
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.76	6.76	6.76	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.78	0.78	0.78	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	2.25	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	14.51	3.86	3.86	--	--	--	--	--	--	--	--	--
- Total	**79.88**	**378.24**	**9,073**	**129.55**	**113.44**	**82.79**	**1,010**	**3.55**	**0.14**	**0.014**	**--**	**707,863**	**8,397**	**213.98**	**28.11**
2009 - 2010 Average Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.10	0.69	0.18	0.072	0.039	0.030	0.0072	0.0045	4.46E-05	1.49E-05	--	--	807.37	0.033	0.0065
- Bagasse	2.95	51.67	9,046	76.31	70.97	49.60	1,057	0.13	0.016	0.0024	--	123,509	--	37.19	4.88
Boiler No. 8 (EU 028)															
- No. 2 Fuel Oil	0.36	1.97	6.18	0.22	0.12	0.09	0.022	0.016	1.39E-04	4.64E-05	--	--	2,523	0.10	0.020
- Bagasse	68.81	292.43	916.02	24.42	24.42	15.87	51.98	3.06	0.071	0.011	--	538,337	--	162.12	21.28
- Wood/Bark	1.96	9.96	31.34	0.83	0.83	0.54	1.33	0.087	0.063	2.74E-04	--	16,172	--	5.52	0.72
GCRF - No. 2 Fuel Oil (EU 017)	0.49	5.74	5.74	1.77	1.77	1.77	7.79	0.022	2.14E-04	7.13E-05	--	--	3,874	0.16	0.031
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.72	6.72	6.72	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.77	0.77	0.77	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	1.35	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	14.72	3.92	3.92	--	--	--	--	--	--	--	--	--
- Total	**74.67**	**362.46**	**10,005**	**128.63**	**112.36**	**82.12**	**1,119**	**3.32**	**0.15**	**0.013**	**--**	**678,018**	**7,204**	**205.13**	**26.94**
Highest Consecutive 2-Year Average	**'08 - '09**	**'08 - '09**	**'02 - '03**	**'02 - '03**	**'02 - '03**	**'02 - '03**	**'02 - '03**	**'08 - '09**	**'06 - '07**	**'08 - '09**	**'02 - '03**	**'08 - '09**	**'05 - '06**	**'08 - '09**	**'08 - '09**
	79.88	**378.24**	**13,654**	**171.55**	**159.95**	**114.88**	**1,604**	**3.55**	**0.32**	**0.014**	**0.012**	**707,863**	**18,271**	**213.98**	**28.11**

APPENDIX B

DERIVATION OF BASELINE ACTUAL EMISSIONS
SCENARIO 2

Table B-1: Emission Factors Used to Determine Baseline Actual Annual Emissions for Refinery Sources (2001 - 2010)

Source Description	Emissions Unit ID No.	Operating Hours	Annual Production / Usage Rate	Emission Factor	Pollutant Emission Factors PM	PM_{10}	$PM_{2.5}$
2001 Actual Emission Factors							
White Sugar Dryer No. 1	016	7,416	461,703 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	8,760	461,703 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	461,703 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	8,760	461,703 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	6,834 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	7,416	205,037 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	--	-- --	--	--	--	--
2002 Actual Emission Factors							
White Sugar Dryer No. 1	016	7,416	464,885 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	7,416	464,885 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	464,885 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	7,416	464,885 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	6,834 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	7,416	181,250 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	--	-- --	--	--	--	--
2003 Actual Emission Factors							
White Sugar Dryer No. 1	016	7,848	543,880 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	7,848	543,880 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	543,880 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	8,760	543,880 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	5,755 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	8,760	203,260 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	--	-- --	--	--	--	--
2004 Actual Emission Factors							
White Sugar Dryer No. 1	016	7,200	536,744 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	7,200	536,744 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	536,744 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	8,760	536,744 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	5,036 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	8,760	196,742 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	--	-- --	--	--	--	--
2005 Actual Emission Factors							
White Sugar Dryer No. 1	016	7,680	475,793 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	7,680	553,110 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	553,110 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	8,760	553,110 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	5,036 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	8,760	193,375 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	1,248	77,316 tons sugar	lb/ton sugar	0.0838 [C]	0.0223 [D]	0.0223 [D]
2006 Actual Emission Factors							
White Sugar Dryer No. 1	016	7,752	413,690 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	8,208	572,153 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	572,153 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	8,760	572,153 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	7,913 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	8,189	204,733 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	6,072	158,463 tons sugar	lb/ton sugar	0.0838 [C]	0.0223 [D]	0.0223 [D]
2007 Actual Emission Factors							
White Sugar Dryer No. 1	016	8,160	293,853 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	8,256	576,184 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	576,184 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	8,760	576,184 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	5,396 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	8,215	205,385 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	7,824	282,330 tons sugar	lb/ton sugar	0.0838 [C]	0.0223 [D]	0.0223 [D]
2008 Actual Emission Factors							
White Sugar Dryer No. 1	016	8,280	340,512 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	8,640	682,012 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	682,012 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	8,760	682,012 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	5,036 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	8,760	244,626 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	8,280	341,499 tons sugar	lb/ton sugar	0.0838 [C]	0.0223 [D]	0.0223 [D]
2009 Actual Emission Factors							
White Sugar Dryer No. 1	016	8,304	351,324 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	8,592	702,648 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	702,648 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	8,760	702,648 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	3,957 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	8,760	702,648 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	8,304	351,324 tons sugar	lb/ton sugar	0.0838 [C]	0.0223 [D]	0.0223 [D]
2010 Actual Emission Factors							
White Sugar Dryer No. 1	016	8,184	351,382 tons sugar	lb/hr	1.63 [A]	1.63 [B]	1.63 [B]
Vacuum Systems	018	8,568	702,765 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Conditioning Silos	019	8,760	702,765 tons sugar	lb/hr	0.18 [A]	0.18 [B]	0.18 [B]
Sugar/Starch Bins	020	8,760	702,765 tons sugar	lb/hr	0.25 [A]	0.25 [B]	0.25 [B]
Alcohol Usage	021	8,760	1,439 lb alcohol	lb VOC	--	--	--
Sugar Packaging	022	8,760	702,765 tons sugar	lb/hr	0.21 [A]	0.21 [B]	0.21 [B]
White Sugar Dryer No. 2	029	8,184	351,382 tons sugar	lb/ton sugar	0.0838 [C]	0.0223 [D]	0.0223 [D]

[A] Maximum permitted emission rates (Permit No. 0510003-032-AV).

[B] Assumed that PM_{10} and $PM_{2.5}$ emissions are 100% of PM emissions.

[C] Based on average stack test values (see Table B-3).

[D] Based on average of PM_{10} stack tests performed 5/25/2006 and 2/21/2007 (see Table B-3). $PM_{2.5}$ is assumed to be 100% of PM_{10}.

Table B-2: Emission Factors Used to Determine Baseline Actual Annual Emissions for Boilers and Granular Carbon Regeneration Furnace (2001 - 2010)

Source Description	Emissions Unit ID No.	Operating Hours	Sulfur Content Original (%)	Sulfur Content Revised (%)	Annual Process / Fuel Usage	Heat Input Rate (MMBtu)	Pollutant Emission Factors (lb/MMBtu) SO_2	NO_x	CO	PM	PM_{10}	$PM_{2.5}$	VOC	SAM	Lead	Mercury	Fluoride	CO_2	CH_4	N_2O
2001 Actual Emission Factors																				
Boiler No. 2	002	5,087																		
- No. 6 Fuel Oil			1.34	0.05	291.39 x10^3 gal	43,709	0.0523 [A]	0.3133 [A]	0.0333 [A]	0.0245 [A]	0.0152 [B]	0.0056 [B]	0.0019 [C]	2.33E-03 [D]	1.01E-05 [E]	7.53E-07 [E]	2.49E-04 [E]	165.57 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	215,691 tons	1,552,975	0.0056 [G]	0.0980 [H]	17.1575 [H]	0.1930 [I]	0.1795 [J]	0.1254 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 7	014	5,788																		
- No. 2 Fuel Oil			0.05	0.05	2,440.51 x10^3 gal	336,790	0.0506 [M]	0.1739 [A]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	2.25E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	351,558 tons	2,531,218	0.0393 [Q]	0.2133 [I]	0.2454 [I]	0.0116 [I]	0.0108 [J]	0.0075 [J]	0.0277 [I]	1.75E-03 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
GCRF - No. 2 Fuel Oil	017	4,560	0.05	0.05	190.760 x10^3 gal	26,325	0.0506 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	2.25E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
2002 Actual Emission Factors																				
Boiler No. 2	002	5,545																		
- No. 6 Fuel Oil			1.47	0.05	732.81 x10^3 gal	109,922	0.0523 [A]	0.3133 [A]	0.0333 [A]	0.0245 [A]	0.0152 [B]	0.0056 [B]	0.0019 [C]	2.33E-03 [D]	1.01E-05 [E]	7.53E-07 [E]	2.49E-04 [E]	165.57 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	225,369 tons	1,622,657	0.0056 [G]	0.0980 [H]	17.1575 [H]	0.1948 [I]	0.1812 [J]	0.1266 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 7	014	6,240																		
- No. 2 Fuel Oil			0.05	0.05	3,653.64 x10^3 gal	504,202	0.0506 [M]	0.1739 [A]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	2.25E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	381,176 tons	2,744,467	0.0393 [Q]	0.2133 [I]	0.2454 [I]	0.0116 [I]	0.0108 [J]	0.0075 [J]	0.0277 [I]	1.75E-03 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
GCRF - No. 2 Fuel Oil	017	5,928	0.05	0.05	290.420 x10^3 gal	40,078	0.0506 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	2.25E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
2003 Actual Emission Factors																				
Boiler No. 2	002	5,425																		
- No. 6 Fuel Oil			1.476	0.05	539.74 x10^3 gal	80,961	0.0523 [A]	0.3133 [A]	0.0333 [A]	0.0245 [A]	0.0152 [B]	0.0056 [B]	0.0019 [C]	2.33E-03 [D]	1.01E-05 [E]	7.53E-07 [E]	2.49E-04 [E]	165.57 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	216,540 tons	1,559,088	0.0056 [G]	0.0980 [H]	17.1575 [H]	0.2060 [I]	0.1916 [J]	0.1339 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 7	014	6,137																		
- No. 2 Fuel Oil			0.05	0.05	3,552.74 x10^3 gal	490,278	0.0506 [M]	0.1739 [A]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	2.25E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	375,958 tons	2,706,898	0.0393 [Q]	0.2085 [I]	0.2219 [I]	0.0149 [I]	0.0138 [J]	0.0097 [J]	0.0272 [I]	1.75E-03 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
GCRF - No. 2 Fuel Oil	017	7,584	0.05	0.05	285.630 x10^3 gal	39,417	0.0506 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	2.25E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
2004 Actual Emission Factors																				
Boiler No. 2	002	4,570																		
- No. 6 Fuel Oil			1.484	0.05	552.33 x10^3 gal	82,850	0.0523 [A]	0.3133 [A]	0.0333 [A]	0.0245 [A]	0.0152 [B]	0.0056 [B]	0.0019 [C]	2.33E-03 [D]	1.01E-05 [E]	7.53E-07 [E]	2.49E-04 [E]	165.57 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	174,851 tons	1,258,927	0.0056 [G]	0.0980 [H]	17.1575 [H]	0.1886 [I]	0.1754 [J]	0.1226 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 7	014	7,138																		
- No. 2 Fuel Oil			0.05	0.05	1,094.30 x10^3 gal	151,013	0.0506 [M]	0.1739 [A]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	2.25E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	435,549 tons	3,135,953	0.0393 [Q]	0.1998 [I]	0.3155 [I]	0.0140 [I]	0.0130 [J]	0.0091 [J]	0.0343 [I]	1.75E-03 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
GCRF - No. 2 Fuel Oil	017	6,432	0.05	0.05	262.150 x10^3 gal	36,177	0.0506 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	2.25E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
2005 Actual Emission Factors																				
Boiler No. 2	002	2,965																		
- No. 2 Fuel Oil			0.0315	0.0315	208.24 x10^3 gal	28,737	0.0319 [M]	0.139 [R]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	1.42E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	95,087 tons	684,626	0.0056 [G]	0.0980 [H]	17.1575 [H]	0.1914 [I]	0.1780 [J]	0.1244 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 7	014	3,909																		
- No. 2 Fuel Oil			0.0315	0.0315	729.57 x10^3 gal	100,681	0.0319 [M]	0.1739 [A]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	1.42E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	225,626 tons	1,624,507	0.0393 [Q]	0.2040 [I]	0.2914 [I]	0.0159 [I]	0.0148 [J]	0.0103 [J]	0.0330 [I]	1.75E-03 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
GCRF - No. 2 Fuel Oil	017	7,680	0.0315	0.0315	310.860 x10^3 gal	42,899	0.0319 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	1.42E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
2006 Actual Emission Factors																				
Boiler No. 2	002	1,851																		
- No. 2 Fuel Oil			0.0407	0.0407	86.02 x10^3 gal	11,871	0.0412 [M]	0.139 [R]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	1.83E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	69,389 tons	499,601	0.0056 [G]	0.0980 [H]	17.1575 [H]	0.1778 [I]	0.1654 [J]	0.1156 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 7	014	521																		
- No. 2 Fuel Oil			0.0407	0.0407	60.55 x10^3 gal	8,356	0.0412 [M]	0.1739 [A]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	1.83E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- Bagasse			--	--	36,133 tons	260,158	0.0393 [Q]	0.2001 [I]	0.3197 [I]	0.0160 [I]	0.0149 [J]	0.0104 [J]	0.0344 [I]	1.75E-03 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
GCRF - No. 2 Fuel Oil	017	7,272	0.0407	0.0407	254.830 x10^3 gal	35,167	0.0412 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	1.83E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]

Table B-2: Emission Factors Used to Determine Baseline Actual Annual Emissions for Boilers and Granular Carbon Regeneration Furnace (2001 - 2010)

Source Description	Emissions Unit ID No.	Operating Hours	Sulfur Content Original (%)	Sulfur Content Revised (%)	Annual Process / Fuel Usage	Heat Input Rate (MMBtu)	Pollutant Emission Factors (lb/MMBtu) SO_2	NO_x	CO	PM	PM_{10}	$PM_{2.5}$	VOC	SAM	Lead	Mercury	Fluoride	CO_2	CH_4	N_2O
2007 Actual Emission Factors																				
Boiler No. 2	002	1,800																		
- *No. 2 Fuel Oil*			0.0407	0.0407	80.38 x10^3 gal	11,092	0.0412 [M]	0.139 [R]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	1.83E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- *Bagasse*			--	--	56,995 tons	410,364	0.0056 [G]	0.0980 [H]	17.1575 [H]	0.1789 [I]	0.1664 [J]	0.1163 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 7	014	4,543																		
- *No. 2 Fuel Oil*			0.0407	0.0407	456.102 x10^3 gal	62,942	0.0412 [M]	0.1739 [A]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	1.83E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- *Bagasse*			--	--	291,864 tons	2,101,421	0.0393 [Q]	0.2053 [I]	0.3096 [I]	0.0199 [I]	0.0185 [J]	0.0129 [J]	0.0119 [I]	1.75E-03 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
GCRF - No. 2 Fuel Oil	017	8,064	0.0407	0.0407	383.523 x10^3 gal	52,926	0.0412 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	1.83E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
2008 Actual Emission Factors																				
Boiler No. 2	002	4,724																		
- *No. 2 Fuel Oil*			0.00071	0.00071	103.818 x10^3 gal	14,327	0.0007 [M]	0.139 [R]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	3.19E-05 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- *Bagasse*			--	--	154,557 tons	1,112,810	0.0056 [G]	0.0980 [H]	17.1575 [H]	0.1640 [I]	0.1525 [J]	0.1066 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 7	014	5,967																		
- *No. 2 Fuel Oil*			0.00071	0.00071	203.36 x10^3 gal	28,064	0.0007 [M]	0.1739 [A]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	3.19E-05 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- *Bagasse*			--	--	458,051 tons	3,297,967	0.0393 [Q]	0.1957 [I]	0.3276 [I]	0.0170 [I]	0.0158 [J]	0.0111 [J]	0.0108 [I]	1.75E-03 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
GCRF - No. 2 Fuel Oil	017	8,184	0.00071	0.00071	332.676 x10^3 gal	45,909	0.0007 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	3.19E-05 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
2009 Actual Emission Factors																				
Boiler No. 2	002	2,987																		
- *No. 2 Fuel Oil*			0.04	0.04	69.108 x10^3 gal	9,537	0.0405 [M]	0.139 [R]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	1.80E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- *Bagasse*			--	--	106,717 tons	768,362	0.0056 [G]	0.0980 [H]	17.1575 [H]	0.1545 [I]	0.1437 [J]	0.1005 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 7	014	5,871																		
- *No. 2 Fuel Oil*			0.04	0.04	279.329 x10^3 gal	38,547	0.0405 [M]	0.1739 [A]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	1.80E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- *Bagasse*			--	--	436,429 tons	3,142,289	0.0393 [Q]	0.2006 [I]	0.2385 [I]	0.0148 [I]	0.0138 [J]	0.0096 [J]	0.0053 [I]	1.75E-03 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
GCRF - No. 2 Fuel Oil	017	8,088	0.04	0.04	333.139 x10^3 gal	45,973	0.0405 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	1.80E-03 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
2010 Actual Emission Factors																				
Boiler No. 2	002	4,544																		
- *No. 2 Fuel Oil*			0.002	0.002	74.415 x10^3 gal	10,269	0.0020 [M]	0.139 [R]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	9.00E-05 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- *Bagasse*			--	--	186,189 tons	1,340,560	0.0056 [G]	0.0980 [H]	17.1575 [H]	0.1391 [I]	0.1294 [J]	0.0904 [J]	2.0040 [H]	2.49E-04 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
Boiler No. 7	014	5,925																		
- *No. 2 Fuel Oil*			0.002	0.002	151.162 x10^3 gal	20,860	0.0020 [M]	0.1739 [A]	0.0362 [A]	0.0145 [A]	0.0080 [B]	0.0061 [B]	0.0014 [C]	9.00E-05 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]
- *Bagasse*			--	--	442,705 tons	3,187,476	0.0393 [Q]	0.2025 [I]	0.2453 [I]	0.0131 [I]	0.0122 [J]	0.0085 [J]	0.0043 [I]	1.75E-03 [D]	3.08E-05 [K]	4.60E-06 [K]	--	234.26 [L]	0.0705 [F]	0.0093 [F]
GCRF - No. 2 Fuel Oil	017	7,920	0.002	0.002	355.503 x10^3 gal	49,059	0.0020 [M]	0.2415 [N]	0.2415 [N]	0.4413 [O]	0.4413 [O]	0.4413 [O]	0.3279 [O]	9.00E-05 [D]	9.00E-06 [P]	3.00E-06 [P]	--	163.05 [F]	0.0066 [F]	0.0013 [F]

Table B-2: Emission Factors Used to Determine Baseline Actual Annual Emissions for Boilers and Granular Carbon Regeneration Furnace (2001 - 2010)

Source Description	Emissions Unit ID No.	Operating Hours	Sulfur Content Original (%)	Sulfur Content Revised (%)	Annual Process / Fuel Usage	Heat Input Rate (MMBtu)	Pollutant Emission Factors (lb/MMBtu) SO_2	NO_x	CO	PM	PM_{10}	$PM_{2.5}$	VOC	SAM	Lead	Mercury	Fluoride	CO_2	CH_4	N_2O

[A] AP-42, Table 1.3-1. Original sulfur content reported in the AOR. Sulfur content reduced to the current limit of 0.05-percent in Permit No. 0510003-032-AV. SO_2 emission factor is 157(S) lb/10^3 gal, where S is the sulfur content reported in the AOR. NOx emission factor is 47 lb/10^3 gal for No. 6 fuel oil and 24 lb/10^3 gal for No. 2 fuel oil. CO emission factors are 5 lb/10^3 gal for both No. 2 and No. 6 fuel oils. PM emission factor is 9.19(S)+3.22 lb/10^3 gal for No. 6 fuel oil, and 2 lb/10^3 gal for No. 2 fuel oil. Emission factors are divided by fuel oil heat content of 150,000 Btu/gal for No. 6 fuel oil, and 138,000 Btu/gal for No. 2 fuel oil.

[B] AP-42 Table 1.3-7 for uncontrolled PM emissions for fuel oil firing. No. 6 Fuel Oil: 62-percent of PM emissions are PM_{10}, 23-percent of PM emissions are $PM_{2.5}$. No. 2 Fuel Oil: 55-percent of PM emissions are PM_{10}, 42-percent of PM emissions are $PM_{2.5}$.

[C] AP-42 Table 1.3-3. Emission factor is 0.28 lb/10^3 gal for residual oil, 0.20 lb/10^3 gal for distillate oil. Emission factor is divided by fuel heat content of 150,000 Btu/gal for No. 6 fuel oil, and 138,000 Btu/gal for No. 2 fuel oil.

[D] Based on similar derivation of sulfuric acid mist from AP-42 for fuel oil: 3.6-percent of SO_2 becomes SO_3 then multiply the ratio of sulfuric acid mist and sulfur trioxide molecular weights (98/80).

[E] AP-42 Table 1.3-11 for No. 6 fuel oil firing. Emission factors are 0.00151 lb/10^3 gal for Lead, 0.000113 lb/10^3 gal for Mercury, and 0.0373 lb/103 gal for Fluoride. Emission factor is divided by fuel heat content of 150,000 Btu/gal for No. 6 fuel oil, and 138,000 Btu/gal for No. 2 fuel oil.

[F] Federal Register, Vol. 74, No. 209, Friday October 30, 2009, Tables C-1 and C-2. Mandatory reporting of greenhouse gases.

[G] Based on test data for Boiler No. 1 (EU 001) performed 12/8/2000 (0.0101 lb/MMBtu) and 2/7/2005 (0.0001 lb/MMBtu) and Boiler No. 4 (EU 009) performed 1/5/2000 (0.0002 lb/MMBtu) and 2/10/2005 (0.0120 lb/MMBtu).

[H] Based stack testing performed 3/1/1999 (NO_x - 0.099 lb/MMBtu; CO - 15.530 lb/MMBtu; VOC - 1.730 lb/MMBtu) and 1/28/2000 (NO_x - 0.097 lb/MMBtu; CO - 18.785 lb/MMBtu; VOC - 2.278 lb/MMBtu).

[I] Based on 5-year average stack tests (see Table B-4 for Boiler No. 2 and Table B-5 for Boiler No. 7).

[J] Based on historical assumption that 93-percent of PM is PM_{10}, and 65-percent of PM is $PM_{2.5}$.

[K] Based on average values reported for metals analysis for bagasse.

[L] Based on bagasse analysis of 23-percent carbon. The carbon content is multiplied by the ratio of molecular weights of CO_2 (44 lb/lbmol) to C (12 lb/lbmol), multiplied by 2,000 lb/ton, and divided by bagass heat content of 7.2 MMBtu/ton.

[M] Based on stoichiometric conversion of sulfur in fuel (lb S/lb fuel oil x 6.98 lb/gallon x 2 lb SO_2/lb S).

[N] Based on manufacturer design specifications provided by BSP Thermal Systems, Inc. Factor is 3 lb/hr for NOx and CO, divided by 90 gal/hr fuel oil usage, and then divided by fuel heat content of 138,000 Btu/gal.

[O] Factors are in lb/hr. Based average of stack tests performed 1/20/2000 (PM - 0.40 lb/hr; VOC - lb/hr), 9/29/2005 (PM - 0.386 lb/hr; VOC - 0.50 lb/hr), and 4/27/2011 (PM - 0.538 lb/hr; 0.0927 VOC - 0.391 lb/hr). PM_{10} and $PM_{2.5}$ emissions are assumed to be 100-percent of PM emissions.

[P] AP-42 Table 1.3-10 for distillate oil firing. No emission factor exists for fluoride emissions from distillate oil firing.

[Q] Based on average test data for Boiler No. 7 (EU 014) performed 11/18/1997 (0.0140 lb/MMBtu), 2/4/2005 (0.0653 lb/MMBtu), and 1/24/2008 (0.0387 lb/MMBtu).

[R] Based stack testing performed February 2006 for distillate oil firing in Boiler No. 2 (0.139 lb/MMBtu).

[S] AP-42 Table 1.6-2.

[T] Based on assumption that 100-percent of PM emissions are PM_{10}, and 65-percent of PM emissions are $PM_{2.5}$.

[U] Assumed to be the same as bagasse.

[V] AP-42 Table 1.6-3.

[W] Based on wood chip average reported metal analysis for wood chips (2006).

[X] AP-42 Table 1.6-4.

Table B-3: White Sugar Dryer No. 2 (EU 029) Stack Tests

Test Date	Run Number	Sugar Production Rate (TPH)	Measured Rate (lb/hr)	Corrected Rate (lb/hr) [a]	(lb/ton sugar)
			PM Emissions		
February 20, 2007	1	84.8	4.78	4.78	0.0564
February 20, 2007	2	81.6	5.38	5.38	0.0659
February 20, 2007	3	77.2	5.88	5.88	0.0762
February 22, 2007	1	87.6	9.36	9.36	0.1068
February 22, 2007	2	72.5	7.43	7.43	0.1025
February 22, 2007	3	74.5	7.07	7.07	0.0949
Average:				**6.65**	**0.0838**
99% Confidence:				**9.98**	**0.1251**
			PM_{10} Emissions		
May 23, 2006	1	42.5	2.37	2.37	0.0558
May 23, 2006	2	42.5	1.59	1.59	0.0374
May 23, 2006	3	42.5	1.13	1.13	0.0266
May 23, 2006	4	85.0	1.02	1.02	0.0120
May 23, 2006	5	85.0	1.75	1.75	0.0206
May 23, 2006	6	85.0	1.06	1.06	0.0125
May 25, 2006	7	85.0	1.02	1.02	0.0120
May 25, 2006	8	85.0	0.94	0.94	0.0111
May 25, 2006	9	85.0	1.26	1.26	0.0148
February 21, 2007	1	86.4	2.05	2.05	0.0237
February 21, 2007	2	82.3	1.97	1.97	0.0239
February 21, 2007	3	85.5	1.48	1.48	0.0173
Average:				**1.47**	**0.0223**
Maximum:				**2.37**	**0.0558**

[a] Maximum PM and PM_{10} emissions limited to 15 lb/hr and 4.2 lb/hr, respectively. Measured emission rates above this limit were reduced to the maximum emission rate.

Table B-4: Boiler No. 2 Stack Tests

Test Year	Test Date	Steam Rate (lb/hr)	Heat Input Rate (MMBtu/hr)	Steam to Heat Input Ratio (lb/MMBtu)	Bagasse Firing Rate (TPH)	PM Emissions lb/hr	PM Emissions (lb/MMBtu) [a]	Baseline Average Factor Reporting Year	Baseline Average Factor Averaging Period	Baseline Average Factor Emission Rate (lb/MMBtu)
Boiler No. 2 (EU 002)										
1997	January 13, 1998	187,970	396.46	474.12	55.06	67.56	0.1704			
1998	December 18, 1998	185,117	391.33	473.04	54.35	55.81	0.1426			
1999	January 13, 2000	180,083	373.77	481.80	51.91	88.97	0.2380			
2000	December 12, 2000	169,113	362.65	466.33	50.37	61.97	0.1709			
2001	December 12, 2001	196,600	404.10	486.52	56.12	98.17	0.2429	2001	1997 - 2001	0.1930
2002	December 17, 2002	179,086	366.76	488.30	50.94	65.89	0.1797	2002	1998 - 2002	0.1948
2003	November 18, 2003	188,920	400.18	472.08	55.58	79.45	0.1985	2003	1999 - 2003	0.2060
2004	November 17, 2004	195,134	413.73	471.65	57.46	62.40	0.1508	2004	2000 - 2004	0.1886
2005	December 14, 2005	176,993	369.70	478.75	51.35	68.36	0.1849	2005	2001 - 2005	0.1914
2006	November 21, 2006	168,078	354.43	474.22	49.23	62.07	0.1751	2006	2002 - 2006	0.1778
2007	November 7, 2007	155,075	322.37	481.05	44.77	59.72	0.1853	2007	2003 - 2007	0.1789
2008	November 21, 2008	165,330	343.39	481.46	47.69	42.55	0.1239	2008	2004 - 2008	0.1640
2009	November 12, 2009	172,283	356.46	483.31	49.51	36.90	0.1035	2009	2005 - 2009	0.1545
2010	November 18, 2010	195,189	405.51	481.34	56.32	43.70	0.1078	2010	2006 - 2010	0.1391
			413.73	**488.30**	**57.46**				**Maximum: [b]**	**0.1789**

[a] Current (Permit No. 0510003-032-AV) maximum permitted PM emission rate is 0.25 lb/MMBtu when firing carbonaceous fuel.
[b] Highest 5-year average over the last 5 years.

Table B-5: Boiler No. 7 Stack Tests

Test Year	Test Date	Stack Test Emission Rate (lb/MMBtu) NO_x	CO	PM	VOC	Baseline Average Factor (lb/MMBtu) Reporting Year	Averaging Period	NO_x Emission Rate	CO Emission Rate	PM Emission Rate	VOC Emission Rate
Boiler No. 7 (EU 014)											
1998	November 17, 1997	0.2260	0.3220	0.0033	0.0097						
1999	February 8, 1999	0.2467	0.1517	0.0190	0.0007						
2000	December 17, 1999	0.1893	0.2870	0.0120	0.0127						
2001	January 6, 2001	0.2187	0.0743	0.0147	0.0010	2001	1998 - 2002	0.2133	0.2454	0.0116	0.0277
2002	January 9, 2002	0.1860	0.3920	0.0090	0.1143	2002	1998 - 2002	0.2133	0.2454	0.0116	0.0277
2003	November 15, 2002	0.2017	0.2047	0.0197	0.0073	2003	1999 - 2003	0.2085	0.2219	0.0149	0.0272
2004	December 30, 2003	0.2033	0.6193	0.0147	0.0360	2004	2000 - 2004	0.1998	0.3155	0.0140	0.0343
2005	February 4, 2005	0.2103	0.1667	0.0213	0.0063	2005	2001 - 2005	0.2040	0.2914	0.0159	0.0330
2006	January 5, 2006	0.1993	0.2160	0.0153	0.0080	2006	2002 - 2006	0.2001	0.3197	0.0160	0.0344
2007	January 25, 2007	0.2117	0.3413	0.0283	0.0017	2007	2003 - 2007	0.2053	0.3096	0.0199	0.0119
2008	January 24, 2008	0.1537	0.2947	0.0053	0.0020	2008	2004 - 2008	0.1957	0.3276	0.0170	0.0108
2009	November 20, 2009	0.2280	0.1737	0.0037	0.0083	2009	2005 - 2009	0.2006	0.2385	0.0148	0.0053
2010	November 4, 2010	0.2197	0.2010	0.0127	0.0015	2010	2006 - 2010	0.2025	0.2453	0.0131	0.0043
							Maximum: [a]	**0.2053**	**0.3276**	**0.0199**	**0.0344**

[a] Highest 5-year average over the last 5 years.

Table B-6: Refinery Operations

Year	Operation (hours)							Sugar Production (TPY)			Average Dryer Production (TPH)	GCRF Fuel Usage		Alcohol Usage (EU 021) (lbs)
	White Sugar Dryer No. 1 (EU 016)	GCRF (EU 017)	Vacuum Systems (EU 018)	Conditioning Silos (EU 019)	Sugar/Starch Bins (EU 020)	Sugar Packaging (EU 022)	White Sugar Dryer No. 2 (EU 029)	White Sugar Dryer No. 1 (EU 016)	White Sugar Dryer No. 2 (EU 029)	Total Annual Production		Annual (gal)	Average Hourly (gal/hr)	
2001	7,416	4,560	8,760	8,760	8,760	7,416	--	461,703	--	461,703	62.26	190,760	41.83	6,834
2002	7,416	5,928	7,416	8,760	7,416	7,416	--	464,885	--	464,885	62.69	290,420	48.99	6,834
2003	7,848	7,584	7,848	8,760	8,760	8,760	--	543,880	--	543,880	69.30	285,630	37.66	5,755
2004	7,200	6,432	7,200	8,760	8,760	8,760	--	536,744	--	536,744	74.55	262,150	40.76	5,036
2005	7,680	7,680	7,680	8,760	8,760	8,760	1,248	475,793	77,316	553,110	61.95	310,860	40.48	5,036
2006	7,752	7,272	8,208	8,760	8,760	8,189	6,072	413,690	158,463	572,153	41.39	254,830	35.04	7,913
2007	8,160	8,064	8,256	8,760	8,760	8,215	7,824	293,853	282,330	576,183	36.05	383,523	47.56	5,396
2008	8,280	8,184	8,640	8,760	8,760	8,760	8,280	340,512	341,499	682,011	41.18	332,676	40.65	5,036
2009	8,304	8,088	8,592	8,760	8,760	8,760	8,304	351,324	351,324	702,648	42.31	333,139	41.19	3,957
2010	8,184	7,920	8,568	8,760	8,760	8,760	8,184	351,382	351,382	702,764	42.94	355,503	44.89	1,439
Minimum:	**7,200**	**4,560**	**7,200**	**8,760**	**7,416**	**7,416**	**1,248**	**293,853**	**77,316**	**461,703**	**36.05**	**190,760**	**35.04**	**1,439**
Average:	**7,824**	**7,171**	**8,117**	**8,760**	**8,626**	**8,380**	**6,652**	**423,377**	**260,386**	**579,608**	**53.46**	**299,949**	**41.90**	**5,324**
Maximum:	**8,304**	**8,184**	**8,760**	**8,760**	**8,760**	**8,760**	**8,304**	**543,880**	**351,382**	**702,764**	**74.55**	**383,523**	**48.99**	**7,913**

Table B-7: Boiler Nos. 2 and 7 Operating History

Year	Operating Hours (hours)		Steam Production (lb)			Steam Enthalpy (Btu/lb steam)	
	Boiler No. 2	Boiler No. 7	Boiler No. 2	Boiler No. 7	Total	Boiler No. 2	Boiler No. 7
2001	5,087	5,788	776,975,000	1,343,740,504	2,120,715,504	2,055	2,134
2002	5,545	6,240	847,248,000	1,526,068,000	2,373,316,000	2,045	2,129
2003	5,425	6,137	774,663,000	1,522,466,000	2,297,129,000	2,117	2,100
2004	4,570	7,138	633,152,000	1,568,890,000	2,202,042,000	2,119	2,095
2005	2,965	3,909	342,839,000	832,929,000	1,175,768,000	2,081	2,071
2006	1,851	521	242,241,000	129,555,970	371,796,970	2,111	2,073
2007	1,800	4,543	200,496,000	1,043,863,000	1,244,359,000	2,102	2,073
2008	4,724	5,967	531,487,000	1,570,829,000	2,102,316,000	2,121	2,117
2009	2,987	5,871	375,668,670	1,524,558,490	1,900,227,160	2,071	2,086
2010	4,544	5,925	650,208,390	1,552,587,080	2,202,795,470	2,078	2,066
Minimum:	**1,800**	**521**	**200,496,000**	**129,555,970**	**371,796,970**	**2,071**	**2,066**
Average:	**3,145**	**4,456**	**390,490,010**	**1,109,053,757**	**1,499,543,767**	**2,094**	**2,081**
Maximum:	**4,724**	**5,967**	**650,208,390**	**1,570,829,000**	**2,202,795,470**	**2,121**	**2,117**

Year	Annual Average Steam Rate (lb/hr)		Fuel Firing Rates				
			Fuel Oil (gal/yr)			Bagasse (TPY)	
	Boiler No. 2	Boiler No. 7	Boiler No. 2	Boiler No. 7	Total	Boiler No. 2	Boiler No. 7
2001	152,737	232,160	291,390	2,440,510	2,731,900	215,691	351,558
2002	152,795	244,562	732,810	3,653,640	4,386,450	225,369	381,176
2003	142,795	248,080	539,740	3,552,740	4,092,480	216,540	375,958
2004	138,545	219,794	552,330	1,094,300	1,646,630	174,851	435,549
2005	115,629	213,080	208,240	729,570	937,810	95,087	225,626
2006	130,870	248,668	86,020	60,550	146,570	69,389	36,133
2007	111,387	229,774	80,380	456,102	536,482	56,995	291,864
2008	112,508	263,253	103,818	203,360	307,178	154,557	458,051
2009	125,778	259,676	69,108	279,329	348,437	106,717	436,429
2010	143,084	262,051	74,415	151,162	225,577	186,189	442,705
Minimum:	**111,387**	**213,080**	**69,108**	**60,550**	**146,570**	**56,995**	**36,133**
Average:	**123,209**	**246,084**	**103,663**	**313,346**	**417,009**	**111,489**	**315,135**
Maximum:	**143,084**	**263,253**	**208,240**	**729,570**	**937,810**	**186,189**	**458,051**

Year	Heat Input Rate (MMBtu)			Percent Heat Input			
				Boiler No. 2		Boiler No. 7	
	Boiler No. 2	Boiler No. 7	Total	Fuel Oil	Bagasse	Fuel Oil	Bagasse
2001	1,596,684	2,868,008	4,464,692	2.52%	97.48%	11.74%	88.26%
2002	1,732,578	3,248,670	4,981,248	5.84%	94.16%	15.52%	84.48%
2003	1,640,049	3,197,176	4,837,225	4.54%	95.46%	15.33%	84.67%
2004	1,341,777	3,286,966	4,628,743	5.68%	94.32%	4.59%	95.41%
2005	713,364	1,725,188	2,438,551	4.03%	95.97%	5.84%	94.16%
2006	511,472	268,514	779,985	2.32%	97.68%	3.11%	96.89%
2007	421,456	2,164,363	2,585,819	2.63%	97.37%	2.91%	97.09%
2008	1,127,137	3,326,031	4,453,168	1.27%	98.73%	0.84%	99.16%
2009	777,899	3,180,836	3,958,736	1.23%	98.77%	1.21%	98.79%
2010	1,350,829	3,208,336	4,559,166	0.76%	99.24%	0.65%	99.35%
Minimum:	**421,456**	**268,514**	**779,985**	**0.76%**	**95.97%**	**0.65%**	**94.16%**
Average:	**817,026**	**2,312,211**	**3,129,238**	**2.04%**	**97.96%**	**2.43%**	**97.57%**
Maximum:	**1,350,829**	**3,326,031**	**4,559,166**	**4.03%**	**99.24%**	**5.84%**	**99.35%**

Table B-8: Baseline Actual Annual (2001 - 2010) Emissions

Source Description	Pollutant Emission Rate (TPY)														
	SO_2	NO_x	CO	PM	PM_{10}	$PM_{2.5}$	VOC	SAM	Lead	Mercury	Fluoride	Biogenic CO_2	Non-Biogenic CO_2	CH_4	N_2O
2001 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 6 Fuel Oil	1.14	6.85	0.73	0.54	0.33	0.12	0.041	0.051	2.20E-04	1.65E-05	0.0054	--	3,618	0.14	0.029
- Bagasse	4.35	76.10	13,323	149.84	139.35	97.40	1,556	0.19	0.024	0.0036	--	181,899	--	54.78	7.19
Boiler No. 7 (EU 014)															
- No. 2 Fuel Oil	8.52	29.29	6.10	2.44	1.34	1.03	0.24	0.38	0.0015	5.05E-04	--	--	27,457	1.11	0.22
- Bagasse	49.78	270.00	310.58	14.68	13.65	9.54	35.03	2.21	0.039	0.0058	--	296,481	--	89.29	11.72
GCRF - No. 2 Fuel Oil (EU 017)	0.67	3.18	3.18	1.01	1.01	1.01	4.32	0.030	1.18E-04	3.95E-05	--	--	2,146	0.087	0.017
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.04	6.04	6.04	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	3.42	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.78	0.78	0.78	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Total	**64.46**	**385.41**	**13,643**	**178.00**	**165.18**	**118.59**	**1,599**	**2.87**	**0.065**	**0.010**	**0.0054**	**478,380**	**33,222**	**145.41**	**19.18**
2002 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 6 Fuel Oil	2.88	17.22	1.83	1.35	0.84	0.31	0.10	0.13	5.53E-04	4.14E-05	0.014	--	9,100	0.36	0.073
- Bagasse	4.54	79.51	13,920	158.07	147.00	102.74	1,626	0.20	0.025	0.0037	--	190,061	--	57.24	7.51
Boiler No. 7 (EU 014)															
- No. 2 Fuel Oil	12.75	43.84	9.13	3.65	2.01	1.53	0.37	0.57	0.0023	7.56E-04	--	--	41,106	1.67	0.33
- Bagasse	53.97	292.74	336.75	15.92	14.80	10.35	37.98	2.40	0.042	0.0063	--	321,458	--	96.81	12.71
GCRF - No. 2 Fuel Oil (EU 017)	1.01	4.84	4.84	1.31	1.31	1.31	6.57	0.045	1.80E-04	6.01E-05	--	--	3,267	0.13	0.027
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.04	6.04	6.04	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.67	0.67	0.67	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	0.93	0.93	0.93	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	3.42	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.78	0.78	0.78	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Total	**75.16**	**438.16**	**14,273**	**189.50**	**175.16**	**125.45**	**1,674**	**3.34**	**0.070**	**0.011**	**0.014**	**511,520**	**53,473**	**156.21**	**20.65**
2003 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 6 Fuel Oil	2.12	12.68	1.35	0.99	0.62	0.23	0.076	0.09	4.08E-04	3.05E-05	0.010	--	6,702	0.27	0.054
- Bagasse	4.37	76.40	13,375	160.59	149.35	104.39	1,562	0.19	0.024	0.0036	--	182,615	--	55.00	7.22
Boiler No. 7 (EU 014)															
- No. 2 Fuel Oil	12.40	42.63	8.88	3.55	1.95	1.49	0.36	0.55	0.0022	7.35E-04	--	--	39,971	1.62	0.32
- Bagasse	53.24	282.15	300.38	20.12	18.71	13.08	36.83	2.37	0.042	0.0062	--	317,058	--	95.48	12.53
GCRF - No. 2 Fuel Oil (EU 017)	1.00	4.76	4.76	1.67	1.67	1.67	6.46	0.044	1.77E-04	5.91E-05	--	--	3,214	0.13	0.026
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.40	6.40	6.40	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.71	0.71	0.71	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	2.88	--	--	--	--	--	--	--	--

Table B-8: Baseline Actual Annual (2001 - 2010) Emissions

Source Description	Pollutant Emission Rate (TPY)														
	SO_2	NO_x	CO	PM	PM_{10}	$PM_{2.5}$	VOC	SAM	Lead	Mercury	Fluoride	Biogenic CO_2	Non-Biogenic CO_2	CH_4	N_2O
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Total	**73.12**	**418.62**	**13,690**	**196.84**	**182.21**	**130.76**	**1,609**	**3.25**	**0.068**	**0.011**	**0.010**	**499,673**	**49,887**	**152.50**	**20.15**
2004 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 6 Fuel Oil	2.17	12.98	1.38	1.02	0.63	0.23	0.077	0.10	4.17E-04	3.12E-05	0.010	--	6,859	0.27	0.055
- Bagasse	3.52	61.69	10,800	118.70	110.39	77.15	1,261	0.16	0.019	0.0029	--	147,458	--	44.41	5.83
Boiler No. 7 (EU 014)															
- No. 2 Fuel Oil	3.82	13.13	2.74	1.09	0.60	0.46	0.11	0.17	6.80E-04	2.27E-04	--	--	12,312	0.50	0.10
- Bagasse	61.67	313.28	494.64	21.95	20.42	14.27	53.73	2.74	0.048	0.0072	--	367,313	--	110.62	14.52
GCRF - No. 2 Fuel Oil (EU 017)	0.91	4.37	4.37	1.42	1.42	1.42	5.93	0.041	1.63E-04	5.43E-05	--	--	2,949	0.12	0.024
White Sugar Dryer No. 1 (EU 016)	--	--	--	5.87	5.87	5.87	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.65	0.65	0.65	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	2.52	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Total	**72.10**	**405.45**	**11,303**	**153.50**	**142.77**	**102.85**	**1,324**	**3.21**	**0.069**	**0.010**	**0.010**	**514,771**	**22,120**	**155.92**	**20.53**
2005 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.46	2.00	0.52	0.21	0.11	0.087	0.021	0.020	1.29E-04	4.31E-05	--	--	2,343	0.10	0.019
- Bagasse	1.92	33.55	5,873	65.51	60.92	42.58	686.00	0.085	0.011	0.0016	--	80,190	--	24.15	3.17
Boiler No. 7 (EU 014)															
- No. 2 Fuel Oil	1.60	8.75	1.82	0.73	0.40	0.31	0.073	0.071	4.53E-04	1.51E-04	--	--	8,208	0.33	0.067
- Bagasse	31.95	165.70	236.69	12.89	11.99	8.38	26.80	1.42	0.025	0.0037	--	190,278	--	57.30	7.52
GCRF - No. 2 Fuel Oil (EU 017)	0.68	5.18	5.18	1.69	1.69	1.69	7.03	0.030	1.93E-04	6.43E-05	--	--	3,497	0.14	0.028
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.26	6.26	6.26	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.69	0.69	0.69	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	2.52	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	3.24	0.86	0.86	--	--	--	--	--	--	--	--	--
- Total	**36.61**	**215.18**	**6,117**	**94.02**	**85.74**	**63.66**	**722.44**	**1.63**	**0.036**	**0.0056**	**--**	**270,468**	**14,048**	**82.02**	**10.80**
2006 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.24	0.83	0.22	0.086	0.047	0.036	0.0086	0.011	5.34E-05	1.78E-05	--	--	967.79	0.039	0.0079
- Bagasse	1.40	24.48	4,286	44.42	41.31	28.87	500.60	0.062	0.0077	0.0011	--	58,518	--	17.62	2.31
Boiler No. 7 (EU 014)															
- No. 2 Fuel Oil	0.17	0.73	0.15	0.061	0.033	0.025	0.0061	0.0077	3.76E-05	1.25E-05	--	--	681.23	0.028	0.0055
- Bagasse	5.12	26.03	41.59	2.08	1.94	1.35	4.47	0.23	0.0040	5.98E-04	--	30,472	--	9.18	1.20
GCRF - No. 2 Fuel Oil (EU 017)	0.72	4.25	4.25	1.60	1.60	1.60	5.77	0.032	1.58E-04	5.27E-05	--	--	2,867	0.12	0.023
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.32	6.32	6.32	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.74	0.74	0.74	--	--	--	--	--	--	--	--	--

Table B-8: Baseline Actual Annual (2001 - 2010) Emissions

Source Description	Pollutant Emission Rate (TPY)														
	SO_2	NO_x	CO	PM	PM_{10}	$PM_{2.5}$	VOC	SAM	Lead	Mercury	Fluoride	Biogenic CO_2	Non-Biogenic CO_2	CH_4	N_2O
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	3.96	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.86	0.86	0.86	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	6.64	1.77	1.77	--	--	--	--	--	--	--	--	--
- Total	**7.66**	**56.31**	**4,332**	**64.69**	**56.50**	**43.46**	**514.81**	**0.34**	**0.012**	**0.0018**	**--**	**88,990**	**4,516**	**26.98**	**3.55**
2007 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.23	0.77	0.20	0.080	0.044	0.034	0.0080	0.010	4.99E-05	1.66E-05	--	--	904.33	0.037	0.0073
- Bagasse	1.15	20.11	3,520	36.71	34.14	23.86	411.18	0.051	0.0063	0.0009	--	48,066	--	14.48	1.90
Boiler No. 7 (EU 014)															
- No. 2 Fuel Oil	1.30	5.47	1.14	0.46	0.25	0.19	0.046	0.058	2.83E-04	9.44E-05	--	--	5,131	0.21	0.042
- Bagasse	41.33	215.68	325.30	20.87	19.41	13.57	12.48	1.84	0.032	0.0048	--	246,139	--	74.13	9.73
GCRF - No. 2 Fuel Oil (EU 017)	1.09	6.39	6.39	1.78	1.78	1.78	8.68	0.048	2.38E-04	7.94E-05	--	--	4,315	0.18	0.035
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.65	6.65	6.65	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.74	0.74	0.74	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	2.70	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.86	0.86	0.86	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	11.83	3.15	3.15	--	--	--	--	--	--	--	--	--
- Total	**45.09**	**248.42**	**3,853**	**81.87**	**68.92**	**52.72**	**435.10**	**2.01**	**0.039**	**0.0060**	**--**	**294,204**	**10,351**	**89.02**	**11.71**
2008 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.0051	1.00	0.26	0.10	0.057	0.044	0.010	2.29E-04	6.45E-05	2.15E-05	--	--	1,168	0.047	0.009
- Bagasse	3.12	54.53	9,547	91.25	84.86	59.31	1,115	0.14	0.017	0.0026	--	130,343	--	39.25	5.15
Boiler No. 7 (EU 014)															
- No. 2 Fuel Oil	0.010	2.44	0.51	0.20	0.11	0.085	0.020	4.48E-04	1.26E-04	4.21E-05	--	--	2,288	0.09	0.019
- Bagasse	64.86	322.65	540.21	28.03	26.07	18.22	17.84	2.88	0.051	0.0076	--	386,290	--	116.33	15.27
GCRF - No. 2 Fuel Oil (EU 017)	0.016	5.54	5.54	1.81	1.81	1.81	7.53	7.33E-04	2.07E-04	6.89E-05	--	--	3,743	0.15	0.030
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.75	6.75	6.75	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.78	0.78	0.78	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	2.52	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	14.31	3.81	3.81	--	--	--	--	--	--	--	--	--
- Total	**68.01**	**386.16**	**10,093**	**146.03**	**127.05**	**93.61**	**1,143**	**3.02**	**0.068**	**0.010**	**--**	**516,633**	**7,199**	**155.88**	**20.48**
2009 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.19	0.66	0.17	0.069	0.038	0.029	0.0069	0.0086	4.29E-05	1.43E-05	--	--	777.51	0.032	0.0063
- Bagasse	2.15	37.65	6,592	59.37	55.22	38.59	769.90	0.10	0.012	0.0018	--	89,998	--	27.10	3.56
Boiler No. 7 (EU 014)															
- No. 2 Fuel Oil	0.78	3.35	0.70	0.28	0.15	0.12	0.028	0.035	1.73E-04	5.78E-05	--	--	3,143	0.13	0.025
- Bagasse	61.80	315.17	374.67	23.25	21.63	15.11	8.30	2.75	0.048	0.0072	--	368,055	--	110.84	14.55

Table B-8: Baseline Actual Annual (2001 - 2010) Emissions

Source Description	Pollutant Emission Rate (TPY)														
	SO_2	NO_x	CO	PM	PM_{10}	$PM_{2.5}$	VOC	SAM	Lead	Mercury	Fluoride	Biogenic CO_2	Non-Biogenic CO_2	CH_4	N_2O
GCRF - No. 2 Fuel Oil (EU 017)	0.93	5.55	5.55	1.78	1.78	1.78	7.54	0.041	2.07E-04	6.90E-05	--	--	3,748	0.15	0.030
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.77	6.77	6.77	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.77	0.77	0.77	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	1.98	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	14.72	3.92	3.92	--	--	--	--	--	--	--	--	--
- Total	**65.85**	**362.39**	**6,973**	**109.82**	**93.08**	**69.90**	**787.75**	**2.93**	**0.061**	**0.009**	**--**	**458,053**	**7,668**	**138.26**	**18.17**
2010 Actual Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.010	0.71	0.19	0.074	0.041	0.031	0.0074	4.62E-04	4.62E-05	1.54E-05	--	--	837.22	0.034	0.0068
- Bagasse	3.75	65.69	11,500	93.24	86.72	60.61	1,343	0.17	0.021	0.0031	--	157,019	--	47.29	6.21
Boiler No. 7 (EU 014)															
- No. 2 Fuel Oil	0.021	1.81	0.38	0.15	0.083	0.063	0.015	0.0009	9.39E-05	3.13E-05	--	--	1,701	0.069	0.014
- Bagasse	62.69	322.68	391.00	20.82	19.37	13.54	6.87	2.79	0.049	0.0073	--	373,348	--	112.43	14.76
GCRF - No. 2 Fuel Oil (EU 017)	0.050	5.93	5.93	1.75	1.75	1.75	8.04	0.0022	2.21E-04	7.36E-05	--	--	4,000	0.16	0.032
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.67	6.67	6.67	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.77	0.77	0.77	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	0.72	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	14.72	3.92	3.92	--	--	--	--	--	--	--	--	--
- Total	**66.52**	**396.82**	**11,898**	**141.01**	**122.12**	**90.15**	**1,359**	**2.96**	**0.070**	**0.011**	**--**	**530,367**	**6,538**	**159.99**	**21.02**

Table B-9: Summary of Baseline 2-Year Average Actual Annual Emissions

Source Description	Pollutant Emission Rate (TPY)														
	SO_2	NO_x	CO	PM	PM_{10}	$PM_{2.5}$	VOC	SAM	Lead	Mercury	Fluoride	Biogenic CO_2	Non-Biogenic CO_2	CH_4	N_2O
2001 - 2002 Average Emissions															
Boiler No. 2 (EU 002)															
- No. 6 Fuel Oil	2.01	12.03	1.28	0.94	0.58	0.22	0.072	0.089	3.87E-04	2.89E-05	0.010	--	6,359	0.25	0.051
- Bagasse	4.45	77.80	13,621	153.95	143.18	100.07	1,591	0.20	0.024	0.0037	--	185,980	--	56.01	7.35
Boiler No. 7 (EU 014)															
- No. 2 Fuel Oil	10.63	36.56	7.62	3.05	1.68	1.28	0.30	0.47	0.0019	6.31E-04	--	--	34,282	1.39	0.28
- Bagasse	51.88	281.37	323.66	15.30	14.23	9.94	36.51	2.31	0.041	0.0061	--	308,970	--	93.05	12.21
GCRF - No. 2 Fuel Oil (EU 017)	0.84	4.01	4.01	1.16	1.16	1.16	5.44	0.037	1.49E-04	4.98E-05	--	--	2,707	0.11	0.022
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.04	6.04	6.04	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.73	0.73	0.73	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.01	1.01	1.01	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	3.42	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.78	0.78	0.78	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Total	**69.81**	**411.78**	**13,958**	**183.75**	**170.17**	**122.02**	**1,637**	**3.10**	**0.068**	**0.010**	**0.010**	**494,950**	**43,348**	**150.81**	**19.91**
2002 - 2003 Average Emissions															
Boiler No. 2 (EU 002)															
- No. 6 Fuel Oil	2.50	14.95	1.59	1.17	0.73	0.27	0.089	0.11	4.80E-04	3.59E-05	0.012	--	7,901	0.32	0.063
- Bagasse	4.45	77.95	13,648	159.33	148.18	103.56	1,594	0.20	0.024	0.0037	--	186,338	--	56.12	7.37
Boiler No. 7 (EU 014)															
- No. 2 Fuel Oil	12.58	43.24	9.01	3.60	1.98	1.51	0.36	0.56	0.0022	7.46E-04	--	--	20,553	1.64	0.33
- Bagasse	53.61	287.45	318.56	18.02	16.76	11.71	37.41	2.38	0.042	0.0063	--	319,258	--	96.15	12.62
GCRF - No. 2 Fuel Oil (EU 017)	1.01	4.80	4.80	1.49	1.49	1.49	6.52	0.045	1.79E-04	5.96E-05	--	--	3,240	0.13	0.026
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.22	6.22	6.22	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.69	0.69	0.69	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.01	1.01	1.01	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	3.15	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.85	0.85	0.85	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Total	**74.14**	**428.39**	**13,982**	**193.17**	**178.69**	**128.11**	**1,642**	**3.30**	**0.069**	**0.011**	**0.012**	**505,596**	**51,680**	**154.35**	**20.40**
2003 - 2004 Average Emissions															
Boiler No. 2 (EU 002)															
- No. 6 Fuel Oil	2.14	12.83	1.37	1.00	0.62	0.23	0.076	0.10	4.12E-04	3.09E-05	0.010	--	6,780	0.27	0.054
- Bagasse	3.95	69.04	12,088	139.64	129.87	90.77	1,412	0.18	0.022	0.0032	--	165,037	--	49.70	6.52
Boiler No. 7 (EU 014)															
- No. 2 Fuel Oil	8.11	27.88	5.81	2.32	1.28	0.98	0.23	0.36	0.0014	4.81E-04	--	--	19,985	1.06	0.21
- Bagasse	57.45	297.72	397.51	21.04	19.56	13.67	45.28	2.56	0.045	0.0067	--	342,185	--	103.05	13.53
GCRF - No. 2 Fuel Oil (EU 017)	0.96	4.56	4.56	1.55	1.55	1.55	6.20	0.043	1.70E-04	5.67E-05	--	--	3,081	0.12	0.025
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.13	6.13	6.13	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.68	0.68	0.68	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--

Alcohol Usage (EU 021)	--	--	--	--	--	--	2.70	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
- Total	**72.61**	**412.04**	**12,497**	**175.17**	**162.49**	**116.81**	**1,466**	**3.23**	**0.069**	**0.011**	**0.010**	**507,222**	**36,003**	**154.21**	**20.34**
2004 - 2005 Average Emissions															
Boiler No. 2 (EU 002)															
- No. 6 Fuel Oil	1.31	7.49	0.95	0.61	0.37	0.16	0.049	0.058	2.73E-04	3.72E-05	0.0052	--	4,601	0.18	0.037
- Bagasse	2.72	47.62	8,337	92.10	85.66	59.87	973.72	0.12	0.015	0.0022	--	113,824	--	34.28	4.50
Boiler No. 7 (EU 014)															
- No. 2 Fuel Oil	2.71	10.94	2.28	0.91	0.50	0.38	0.09	0.12	5.66E-04	1.89E-04	--	--	6,156	0.42	0.083
- Bagasse	46.81	239.49	365.67	17.42	16.20	11.32	40.27	2.08	0.037	0.0055	--	278,795	--	83.96	11.02
GCRF - No. 2 Fuel Oil (EU 017)	0.80	4.78	4.78	1.56	1.56	1.56	6.48	0.036	1.78E-04	5.93E-05	--	--	3,223	0.13	0.026
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.06	6.06	6.06	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.67	0.67	0.67	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	2.52	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	1.62	0.43	0.43	--	--	--	--	--	--	--	--	--
- Total	**54.36**	**310.31**	**8,710**	**123.76**	**114.25**	**83.26**	**1,023**	**2.42**	**0.053**	**0.0080**	**0.0052**	**392,619**	**18,084**	**118.97**	**15.67**
2005 - 2006 Average Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.35	1.41	0.37	0.15	0.081	0.062	0.015	0.016	9.14E-05	3.05E-05	--	--	1,655	0.067	0.013
- Bagasse	1.66	29.01	5,080	54.96	51.12	35.73	593.30	0.074	0.009	0.0014	--	69,354	--	20.89	2.74
Boiler No. 7 (EU 014)															
- No. 2 Fuel Oil	0.89	4.74	0.99	0.40	0.22	0.17	0.040	0.039	2.45E-04	8.18E-05	--	--	4,104	0.18	0.036
- Bagasse	18.53	95.87	139.14	7.48	6.96	4.86	15.64	0.82	0.015	0.0022	--	110,375	--	33.24	4.36
GCRF - No. 2 Fuel Oil (EU 017)	0.70	4.71	4.71	1.65	1.65	1.65	6.40	0.031	1.76E-04	5.85E-05	--	--	3,182	0.13	0.026
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.29	6.29	6.29	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.71	0.71	0.71	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	3.24	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.89	0.89	0.89	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	4.94	1.31	1.31	--	--	--	--	--	--	--	--	--
- Total	**22.13**	**135.75**	**5,225**	**79.35**	**71.12**	**53.56**	**618.63**	**0.98**	**0.024**	**0.0037**	**--**	**179,729**	**9,282**	**54.50**	**7.18**
2006 - 2007 Average Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.24	0.80	0.21	0.083	0.046	0.035	0.0083	0.011	5.17E-05	1.72E-05	--	--	936.06	0.038	0.0076
- Bagasse	1.27	22.29	3,903	40.56	37.73	26.37	455.89	0.057	0.0070	0.0010	--	53,292	--	16.05	2.11
Boiler No. 7 (EU 014)															
- No. 2 Fuel Oil	0.73	3.10	0.65	0.26	0.14	0.11	0.026	0.033	1.60E-04	5.35E-05	--	--	340.62	0.12	0.024
- Bagasse	23.22	120.85	183.45	11.48	10.67	7.46	8.48	1.03	0.018	0.0027	--	138,305	--	41.65	5.47
GCRF - No. 2 Fuel Oil (EU 017)	0.91	5.32	5.32	1.69	1.69	1.69	7.22	0.040	1.98E-04	6.61E-05	--	--	3,591	0.15	0.029
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.48	6.48	6.48	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.74	0.74	0.74	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	3.33	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.86	0.86	0.86	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	9.23	2.46	2.46	--	--	--	--	--	--	--	--	--
- Total	**26.37**	**152.37**	**4,093**	**73.28**	**62.71**	**48.09**	**474.95**	**1.17**	**0.026**	**0.0039**	**--**	**191,597**	**7,433**	**58.00**	**7.63**

2007 - 2008 Average Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.12	0.88	0.23	0.09	0.051	0.039	0.009	0.0052	5.72E-05	1.91E-05	--	--	1,036	0.042	0.0084
- Bagasse	2.13	37.32	6,533	63.98	59.50	41.59	763.11	0.09	0.012	0.0018	--	89,204	--	26.86	3.53
Boiler No. 7 (EU 014)															
- No. 2 Fuel Oil	0.65	3.96	0.82	0.33	0.18	0.14	0.033	0.029	2.05E-04	6.83E-05	--	--	2,566	0.15	0.030
- Bagasse	53.09	269.16	432.75	24.45	22.74	15.89	15.16	2.36	0.042	0.0062	--	316,214	--	95.23	12.50
GCRF - No. 2 Fuel Oil (EU 017)	0.55	5.97	5.97	1.79	1.79	1.79	8.10	0.025	2.22E-04	7.41E-05	--	--	4,029	0.16	0.033
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.70	6.70	6.70	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.76	0.76	0.76	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	2.61	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.89	0.89	0.89	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	13.07	3.48	3.48	--	--	--	--	--	--	--	--	--
- Total	**56.55**	**317.29**	**6,973**	**113.95**	**97.98**	**73.17**	**789.02**	**2.51**	**0.054**	**0.0081**	**--**	**405,419**	**8,775**	**122.45**	**16.10**
2008 - 2009 Average Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.10	0.83	0.22	0.086	0.048	0.036	0.0086	0.0044	5.37E-05	1.79E-05	--	--	972.77	0.039	0.0079
- Bagasse	2.63	46.09	8,069	75.31	70.04	48.95	942.47	0.12	0.014	0.0022	--	110,171	--	33.18	4.35
Boiler No. 7 (EU 014)															
- No. 2 Fuel Oil	0.39	2.90	0.60	0.24	0.13	0.10	0.024	0.018	1.50E-04	5.00E-05	--	--	1,144	0.11	0.022
- Bagasse	63.33	318.91	457.44	25.64	23.85	16.67	13.07	2.82	0.050	0.0074	--	377,172	--	113.59	14.91
GCRF - No. 2 Fuel Oil (EU 017)	0.47	5.55	5.55	1.80	1.80	1.80	7.53	0.021	2.07E-04	6.89E-05	--	--	3,745	0.15	0.030
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.76	6.76	6.76	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.78	0.78	0.78	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	2.25	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	14.51	3.86	3.86	--	--	--	--	--	--	--	--	--
- Total	**66.93**	**374.27**	**8,533**	**127.93**	**110.06**	**81.75**	**965.35**	**2.98**	**0.064**	**0.010**	**--**	**487,343**	**7,434**	**147.07**	**19.32**
2009 - 2010 Average Emissions															
Boiler No. 2 (EU 002)															
- No. 2 Fuel Oil	0.10	0.69	0.18	0.072	0.039	0.030	0.0072	0.0045	4.46E-05	1.49E-05	--	--	807.37	0.033	0.0065
- Bagasse	2.95	51.67	9,046	76.31	70.97	49.60	1,057	0.13	0.016	0.0024	--	123,509	--	37.19	4.88
Boiler No. 7 (EU 014)															
- No. 2 Fuel Oil	0.40	2.58	0.54	0.22	0.12	0.09	0.022	0.018	1.34E-04	4.46E-05	--	--	1,571	0.10	0.020
- Bagasse	62.24	318.93	382.83	22.04	20.50	14.33	7.59	2.77	0.049	0.0073	--	370,702	--	111.64	14.65
GCRF - No. 2 Fuel Oil (EU 017)	0.49	5.74	5.74	1.77	1.77	1.77	7.79	0.022	2.14E-04	7.13E-05	--	--	3,874	0.16	0.031
White Sugar Dryer No. 1 (EU 016)	--	--	--	6.72	6.72	6.72	--	--	--	--	--	--	--	--	--
Vacuum Systems (EU 018)	--	--	--	0.77	0.77	0.77	--	--	--	--	--	--	--	--	--
Conditioning Silos (EU 019)	--	--	--	0.79	0.79	0.79	--	--	--	--	--	--	--	--	--
Sugar/Starch Bins (EU 020)	--	--	--	1.10	1.10	1.10	--	--	--	--	--	--	--	--	--
Alcohol Usage (EU 021)	--	--	--	--	--	--	1.35	--	--	--	--	--	--	--	--
Sugar Packaging (EU 022)	--	--	--	0.92	0.92	0.92	--	--	--	--	--	--	--	--	--
White Sugar Dryer No. 2 (EU 029)	--	--	--	14.72	3.92	3.92	--	--	--	--	--	--	--	--	--
- Total	**66.19**	**379.60**	**9,435**	**125.41**	**107.60**	**80.03**	**1,073**	**2.94**	**0.065**	**0.010**	**--**	**494,210**	**7,103**	**149.12**	**19.59**
Highest Consecutive 2-Year Average	**'02 - '03**	**'02 - '03**	**'02 - '03**	**'02 - '03**	**'02 - '03**	**'02 - '03**	**'02 - '03**	**'02 - '03**	**'02 - '03**	**'02 - '03**	**'02 - '03**	**'03 - '04**	**'02 - '03**	**'02 - '03**	**'02 - '03**
	74.14	**428.39**	**13,982**	**193.17**	**178.69**	**128.11**	**1,642**	**3.30**	**0.069**	**0.011**	**0.012**	**507,222**	**51,680**	**154.35**	**20.40**

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