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BUREAU OF AIR REGULATION

AIR PERMIT APPLICATION
TO MODIFY FUEL OIL BURNERS
BOILER NOS. 1 AND 2

U.S. SUGAR CORPORATION
CLEWISTON, FLORIDA

Prepared For:
United States Sugar Corporation
111 Ponce DeLeon Ave.
Clewiston, Florida 33440

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

September 2004
0437618

DISTRIBUTION:
3 Copies – FDEP, Tallahassee
1 Copy – FDEP, Ft. Myers
2 Copies – U.S. Sugar
2 Copies – Golder Associates Inc.

APPLICATION FOR AIR PERMIT – LONG FORM

Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

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

- subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- at an existing federally enforceable state air operation permit (FESOP) or Title V permitted facility.

Air Operation Permit – Use this form to apply for:

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

Air Construction Permit & Revised/Renewal Title V Air Operation Permit (Concurrent Processing Option) – Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: **United States Sugar Corporation**	
2. Site Name: **U.S. Sugar Clewiston Mill**	
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: **William A. Raiola, Senior Vice President, Sugar Processing Operations**
2. Application Contact Mailing Address... Organization/Firm: **United States Sugar Corporation** Street Address: **111 Ponce DeLeon Ave.** City: **Clewiston** State: **Florida** Zip Code: **33440**
3. Application Contact Telephone Numbers... Telephone: **(863) 983-8121** ext. Fax: **(863) 902-2729**
4. Application Contact Email Address: **wraiola@ussugar.com**

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	9-22-04
2. Project Number(s):	0510003-027-AC
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

APPLICATION INFORMATION

Purpose of Application

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

Air Construction Permit

☒ Air construction permit.

Air Operation Permit

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

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

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

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

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

Application Comment

Air Construction Permit application to modify the fuel oil burners on Boiler Nos. 1 and 2.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
001	Boiler No. 1	AC1D	n/a
002	Boiler No. 2	AC1D	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 : **William A. Raiola, Senior Vice President, Sugar Processing Operations**
2.	Owner/Authorized Representative Mailing Address... Organization/Firm: **United States Sugar Corporation** Street Address: **111 Ponce DeLeon Ave.** City: **Clewiston** State: **FL** Zip Code: **33440**
3.	Owner/Authorized Representative Telephone Numbers... Telephone: **(863) 983-8121** ext. Fax: **(863) 902-2729**
4.	Owner/Authorized Representative Email Address: **wraiola@ussugar.com**
5.	Owner/Authorized Representative Statement: *I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other requirements identified in this application to which the facility is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit.* W Raiola Sept. 17, 2004 Signature Date

APPLICATION INFORMATION

Application Responsible Official Certification

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

1. Application Responsible Official Name:

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.

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 Email 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

<table>
<tr><td>1. Professional Engineer Name: David A. Buff
Registration Number: 19011</td></tr>
<tr><td>2. Professional Engineer Mailing Address...
Organization/Firm: Golder Associates Inc.**
Street Address: 6241 NW 23rd Street, Suite 500
City: Gainesville State: FL Zip Code: 32653-1500</td></tr>
<tr><td>3. Professional Engineer Telephone Numbers...
Telephone: (352) 336-5600 ext.545 Fax: (352) 336-6603</td></tr>
<tr><td>4. Professional Engineer Email Address: dbuff@golder.com</td></tr>
<tr><td>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   9/17/04
Signature   Date

(seal)</td></tr>
</table>

* 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. Facility Contact Name: **Wiliam A. Raiola, Senior Vice President, Sugar Processing Operations**
2. Facility Contact Mailing Address... Organization/Firm: **United States Sugar Corporation** Street Address: **111 Ponce DeLeon Ave.** City: **Clewiston** State: **FL** Zip Code: **33440**
3. Facility Contact Telephone Numbers: Telephone: **(863) 983-8121** ext. Fax: **(863) 902-2729**
4. Facility Contact Email Address: **wraiola@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 Email Address:

FACILITY INFORMATION

Facility Regulatory Classifications

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

1.	☐ 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:	

FACILITY INFORMATION

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
Particulate Matter Total - PM	A	No
Sulfur Dioxide - SO_2	A	No
Nitrogen Oxides - NO_x	A	No
Carbon Monoxide - CO	A	No
Particulate Matter - PM_{10}	A	No
Sulfuric Acid Mist - SAM	A	No
Total Hazardous Air Pollutants - HAPs	A	No
Volatile Organic Compounds - VOC	A	No
Acetaldehyde - H001	A	No
Benzene - H017	A	No
Formaldehyde - H095	A	No
Phenol - H144	A	No
Polycyclic Organic Matter - H151	A	No
Styrene - H163	A	No
Toluene - H169	A	No
Naphthalene - H132	A	No
Dibenzofuran - H058	A	No

FACILITY INFORMATION

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 No.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:_____ ☒ Previously Submitted, Date: 08/2003
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:_____ ☒ Previously Submitted, Date:03/2003
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:_____ ☐ 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 or Modification: ☒ Attached, Document ID: Attachment A
3.	Rule Applicability Analysis: ☒ Attached, Document ID: Attachment A
4.	List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.): ☐ Attached, Document ID:_____ ☒ Not Applicable (no exempt units at facility)
5.	Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.): ☐ Attached, Document ID:_____ ☒ Not Applicable
6.	Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.): ☐ Attached, Document ID:_____ ☒ Not Applicable
7.	Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.): ☐ Attached, Document ID:_____ ☒ Not Applicable
8.	Air Quality Impact since 1977 (Rule 62-212.400(5)(h)5., F.A.C.): ☐ Attached, Document ID:_____ ☒ Not Applicable
9.	Additional Impact Analyses (Rules 62-212.400(5)(e)1. 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

FACILITY INFORMATION

Additional Requirements for FESOP Applications

1.	List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.): ☐ Attached, Document ID:_____ ☒ Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

1.	List of Insignificant Activities (Required for initial/renewal applications only): ☐ Attached, Document ID:_____ ☐ Not Applicable (revision application)
2.	Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought): ☐ Attached, Document ID:_____ ☐ Not Applicable (revision application with no change in applicable requirements)
3.	Compliance Report and Plan (Required for all initial/revision/renewal applications): ☐ Attached, Document ID:_____ Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.
4.	List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only): ☐ Attached, Document ID:_____ ☐ Equipment/Activities On site but Not Required to be Individually Listed ☐ Not Applicable
5.	Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only) : ☐ Attached, Document ID:_____ ☐ Not Applicable
6.	Requested Changes to Current Title V Air Operation Permit: ☐ Attached, Document ID:_____ ☐ Not Applicable

Additional Requirements Comment

III. EMISSIONS UNIT INFORMATION

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

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

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

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

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:
   Boiler No. 1

3. Emissions Unit Identification Number: **001**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A			**20**	☐ Yes ☒ No

9. Package Unit:
   Manufacturer: Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:

    Vibrating grate boiler fired by carbonaceous fuel and fuel oil with a maximum sulfur content of 0.05% by weight.

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description: **Joy Turbulaire Impingement Scrubber, Size 125, Type D**
2. Control Device or Method Code(s): **001**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate: **255,000 lb/hr steam**	
3. Maximum Heat Input Rate: **496** mmBtu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule: **24** hours/day **52** weeks/year	 **7** days/week **8,760** hours/year
6. Operating Capacity/Schedule Comment: **Maximum heat input based on 1-hour maximum steam rate (above) for carbonaceous fuel of 255,000 lb/hr steam. Proposed maximum heat input for No. 2 fuel oil is 208 MMBtu/hr and 3,500,000 gal/yr.**	

EMISSIONS UNIT INFORMATION
Section [1] of [2]
Boiler No. 1

C. EMISSION POINT (STACK/VENT) INFORMATION
(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **BLR-1**		2. Emission Point Type Code: **1**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **213** feet	7. Exit Diameter: **8.0** feet
8. Exit Temperature: **150** °F	9. Actual Volumetric Flow Rate: **204,000** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet
13. Emission Point UTM Coordinates... Zone: East (km): North (km):		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)
15. Emission Point Comment:		

EMISSIONS UNIT INFORMATION
Section [1] of [2]
Boiler No. 1

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): **External combustion boilers; Industrial; Bagasse; All boiler sizes**		
2. Source Classification Code (SCC): **1-02-011-01**		3. SCC Units: **Tons Burned**
4. Maximum Hourly Rate: **68.89**	5. Maximum Annual Rate: **603,467**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **7.2**
10. Segment Comment: **Based on 496 MMBtu/hr and 3,600 Btu/lb wet bagasse.**		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): **External combustion boilers; Industrial; Distillate Oil; Grades 1 and 2**		
2. Source Classification Code (SCC): **1-02-005-01**		3. SCC Units: **1000 Gallons Burned**
4. Maximum Hourly Rate: **1.541**	5. Maximum Annual Rate: **3,500**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.05**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **135**
10. Segment Comment: **Maximum hourly and annual rates based on proposed 208 MMBtu/hr and 3,500,000 gallons of No. 2 fuel oil per year. Also includes facility generated on-spec used oil and up to 500 cubic yards per season of petroleum contaminated soils.**		

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
PM	001		EL
PM_{10}	001		EL
SO_2	001		EL
NO_x			NS
CO			NS
VOC			NS
SAM			NS
PB	001		NS
H021 (Beryllium)	001		NS
H144 (Phenol)			NS
H114 (Mercury)	001		NS

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **124.0** lb/hour **543.1** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.25 lb/MMBtu** Reference: **Permit No. 0510003-014-AV**	7. Emissions Method Code: **0**
8. Calculation of Emissions: **Bagasse: 496 MMBtu/hr × 0.25 lb/MMBtu = 124.0 lb/hr** **124.0 lb/hr × 8,760 hr/yr × ton/2000 lb = 543.1 TPY**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **Maximum emissions representative of bagasse firing.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.25 lb/MMBtu**	4. Equivalent Allowable Emissions: **124.0** lb/hour **543.1** tons/year
5. Method of Compliance: **EPA Method 5 or 17**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-014-AV. Emissions representative of bagasse firing only.**	

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: **0.1 lb/MMBtu**	4. Equivalent Allowable Emissions: **20.8** lb/hour **23.6** tons/year
5. Method of Compliance: **EPA Method 5 or 17**	
6. Allowable Emissions Comment (Description of Operating Method): **Rule 62-296.410, F.A.C. Emissions representative of fuel oil firing. Annual emissions based on 3,500,000 gallons per any consecutive 12 mos.**	

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/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: **PM_{10}**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **115.3** lb/hour **505.1** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **93% of PM** Reference: **Test data**	7. Emissions Method Code: **1**
8. Calculation of Emissions: **124.0 lb/hr × 0.93 = 115.3 lb/hr** **543.1 TPY × 0.93 = 505.1 TPY**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **Maximum emissions representative of bagasse firing.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions _____ 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/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: SO_2	2. Total Percent Efficiency of Control:
3. Potential Emissions: 29.8 lb/hour 130.3 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.06 lb/MMBtu and 0.05% of S Oil Reference: Industry Test Data	7. Emissions Method Code: 1
8. Calculation of Emissions: Bagasse: 496 MMBtu/hr × 0.06 lb/MMBtu = 29.76 lb/hr Fuel Oil: 208 MMBtu/hr × 0.053 lb/MMBtu = 11.1 lb/hr Annual: 29.76 lb/hr × 8,760 hr/yr × ton/2,000 lb = 130.3 TPY	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: Fuel oil based on 0.05% sulfur oil. See Attachment UC-EU1-F9 for potential emissions due to fuel oil firing.	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.05 % sulfur oil**	4. Equivalent Allowable Emissions: **11.1** lb/hour **12.6** tons/year
5. Method of Compliance: **Fuel oil analysis.**	
6. Allowable Emissions Comment (Description of Operating Method): **Requested limit. Emissions representative of fuel oil firing. Annual emissions based on 3,500,000 gallons per any consecutive 12 mos. See Attachment UC-EU1-F9 for calculations.**	

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/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: **NO_x**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **99.2** lb/hour **434.5** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.20 lb/MMBtu** Reference: **Industry test data**	7. Emissions Method Code: **1**
8. Calculation of Emissions: **Bagasse: 0.20 lb/MMBtu × 496 MMBtu/hr = 99.2 lb/hr** **99.2 lb/hr × 8,760 hr/yr × ton/2,000 lb = 434.5 TPY** **Fuel oil: 0.15 lb/MMBtu × 208 MMBtu/hr = 31.2 lb/hr** **472,500 MMBtu/yr × 0.15 lb/MMBtu × ton/2,000 lb = 35.4 TPY**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **See Attachment UC-EU1-F9 for potential emissions due to fuel oil firing.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions _____ 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/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: CO	2. Total Percent Efficiency of Control:
3. Potential Emissions: 3,224 lb/hour 14,121.1 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 6.5 lb/MMBtu Reference: Industry test data	7. Emissions Method Code: 1

8. Calculation of Emissions:

Bagasse: 6.5 lb/MMBtu × 496 MMBtu/hr = 3,224 lb/hr
3,224 lb/hr × 8,760 hr/yr ÷ 2,000 lb/ton = 14,121.1 TPY

Fuel oil: 0.037 lb/MMBtu × 208 MMBtu/hr = 7.7 lb/hr
472,500 MMBtu/yr × 0.037 lb/MMBtu × ton/2,000 lb = 8.8 TPY

9. Pollutant Potential/Estimated Fugitive Emissions Comment:

See Attachment UC-EU1-F9 for potential emissions due to fuel oil firing.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions _____ 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/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: **VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **744.0** lb/hour **3,258.7** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **1.50 lb/MMBtu** Reference: **Industry test data**	7. Emissions Method Code: **0**
8. Calculation of Emissions: **Bagasse: 1.50 lb/MMBtu × 496 MMBtu/hr = 744.0 lb/hr** **744.0 lb/hr × 8,760 hr/yr ÷ 2,000 lb/ton = 3,258.7** **Fuel oil: 0.0015 lb/MMBtu × 208 MMBtu/hr = 0.3 lb/hr** **472,500 MMBtu/yr × 0.0015 lb/MMBtu × ton/2,000 lb = 0.35 TPY**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **See Attachment UC-EU1-F9 for potential emissions due to fuel oil firing.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions _____ 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 if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: **VE30**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **30** % Exceptional Conditions: **40** % Maximum Period of Excess Opacity Allowed: **2** min/hour	
4. Method of Compliance: **DEP Method 9**	
5. Visible Emissions Comment: **Permit No. 0510003-014-AV and Rule 62-296.410(1)(b)1., F.A.C.**	

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor 1 of 6

1. Parameter Code: **PRS**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **Custom Design** Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors pressure drop across wet scrubber. Monitored to ensure proper operation of scrubber.**	

Continuous Monitoring System: Continuous Monitor 2 of 6

1. Parameter Code: **FLOW**	2. Pollutant(s):
3. CMS Requirement: ☒ Rule ☐ Other	
4. Monitor Information... Manufacturer: **ITT Barton or equivalent** Model Number: **Flowco F500**	Serial Number: **see comment**
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Permit No. 0510003-014-AV. Monitors fuel oil flow to Boiler No. 1. No serial # or installation date provided because monitors are routinely replaced to ensure optimum performance.**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor 3 of 6

1. Parameter Code: **Nozzle Pressure**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **ABB-Kent Taylor or equivalent** Model Number: **621G**	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors wet scrubber spray nozzle pressure.**	

Continuous Monitoring System: Continuous Monitor 4 of 6

1. Parameter Code: **Steam Temp**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **Preferred Instruments or equivalent** Model Number: **PCC-III Controller**	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors steam temperature.**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor 5 of 6

1. Parameter Code: Steam Pressure	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: ABB-Kent Taylor or equivalent Model Number: 621G Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: Monitors steam pressure.	

Continuous Monitoring System: Continuous Monitor 6 of 6

1. Parameter Code: FLOW	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: ABB-Kent Taylor or equivalent Model Number: 621D Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: Monitors steam flow rate.	

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: _____ ☒ 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: _____ ☒ 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

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)) ☐ Attached, Document ID: _____ ☒ Not Applicable	
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.) ☐ 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: _____ ☒ Not Applicable	
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	
5. Acid Rain Part Application ☐ Certificate of Representation (EPA Form No. 7610-1) ☐ Copy Attached, Document ID: _____ ☐ Acid Rain Part (Form No. 62-210.900(1)(a)) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☒ Not Applicable	

Additional Requirements Comment

ATTACHMENT UC-EU1-F9

POTENTIAL EMISSIONS DUE TO FUEL OIL FIRING

Attachment UC-EU1-F9. Future Potential Emissions due to Fuel Oil Firing, Boiler No. 1, U. S. Sugar Corporation Clewiston

Regulated Pollutant	No. 2 Fuel Oil Combustion					
	Emission Factor (lb/MMBtu)	Ref.	Activity Factor		Hourly Emissions (lb/hr)	Annual Emissions (TPY)
			Hourly[a] MMBtu/hr	Annual[b] MMBtu/yr		
Particulate Matter (PM)	0.015	1	208	472,500	3.1	3.5
Particulate Matter (PM_{10})	0.007	2	208	472,500	1.5	1.8
Sulfur Dioxide (SO_2)	0.053	3	208	472,500	11.1	12.6
Nitrogen Oxides (NO_x)	0.15	4	208	472,500	31.2	35.4
Carbon Monoxide (CO)	0.037	1	208	472,500	7.7	8.8
Volatile Organic Compounds (VOC)	1.5E-03	1	208	472,500	0.3	0.35
Sulfuric Acid Mist (SAM)	0.0026	1	208	472,500	0.5	0.6
Lead (Pb)	9.0E-06	5	208	472,500	1.9E-03	2.1E-05
Beryllium (Be)	3.0E-06	5	208	472,500	6.2E-04	7.1E-06
Mercury (Hg)	3.0E-06	5	208	472,500	6.2E-04	7.1E-04

References:

1. Factors for No. 2 fuel oil combustion: AP-42 Tables 1.3-1 and 1.3-3 (9/98). For sulfuric acid mist, factor shown is for SO_3. Convert to H_2SO_4 by multiplying by 98/80. Factors were converted to lb/MMBtu by dividing by 135,000 Btu/gal.
   PM = 2 lb/1000 gal
   CO = 5 lb/1000 gal
   SO_3 = 5.7S lb/1000 gal, where S = 0.05 VOC = 0.2 lb/1000 gal
2. Factors for distillate fuel oil, PM_{10} is 50% of PM based on AP-42, Table 1.3-6 (9/98).
3. Based on stochiometric calculation: 7.2 lbs/gal; 135,000 Btu/gal; 0.05% sulfur.
4. Burner manufacturer's predicted emissions for Peabody MSC low-NOx burners.
5. Factors for No. 2 fuel oil combustion, AP-42 Table 1.3-10 (9/98).

Note:

[a] Based on proposed maximum heat input due to No. 2 fuel oil combustion, calculated as folllows:
104 MMBtu/hr per burner x 2 burners = 208 MMBtu/hr

[b] Based on No. 2 fuel oil usage of 3,500,000 gallons per year and heating value of 135,000 Btu/gal.

ATTACHMENT UC-EU1-I2

FUEL ANALYSIS

ATTACHMENT UC-EU1-I2

Boiler Nos. 1 and 2
Fuel Analysis

Parameter	Fuel: Carbonaceous Fuel [a]	Fuel: No. 2 Fuel Oil (0.05% S max)
Density (lb/gal)	--	7.2 [c]
Approximate Heating Value (Btu/lb)	3,600 [b]	19,910
Approximate Heating Value (Btu/gal)	--	135,000-139,000
Ultimate Analysis (dry basis):		
Carbon	48.48%	87.3% [d]
Hydrogen	6.01%	12.6% [d]
Nitrogen	0.33%	0.22% [d]
Oxygen	43.65%	0.04% [d]
Sulfur	0.01% - 0.40%	0.05%
Ash/Inorganic	0.2% - 8.6%	<0.001% [c]
Moisture	50% - 55%	0.05%

Note:
[a] Source: sugar industry fuel analysis averages.
[b] Wet basis for bagasse.
[c] Source: Marathon Ashland Pretoleum LLC; Coastal Fuels.
[d] Source: Perry's Chemical Engineer's Handbook. Sixth Edition, 1984.
Represents average fuel characteristics.

ATTACHMENT UC-EU1-I7

OTHER INFORMATION
REQUIRED BY RULE OR STATUTE

ATTACHMENT UC-EU1-I7

LIST OF APPLICABLE REGULATIONS

62-296.410(1)(b), F.A.C.: Carbonaceous Fuel Burning Equipment

62-296.410(3), F.A.C.: Carbonaceous Fuel Burning Equipment

62-297.310(1), F.A.C.: General Compliance Test Requirements

62-297.310(2)(b), F.A.C.: General Compliance Test Requirements

62-297.310(3), F.A.C.: General Compliance Test Requirements

62-297.310(4), F.A.C.: General Compliance Test Requirements

62-297.310(5), F.A.C.: General Compliance Test Requirements

62-297.310(6), F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)3., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)4., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)5., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)9., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)10., F.A.C.: General Compliance Test Requirements

62-297.310(8), F.A.C.: General Compliance Test Requirements

62-297.401(1), F.A.C.: EPA Test Method 1

62-297.401(2), F.A.C.: EPA Test Method 2

62-297.401(3), F.A.C.: EPA Test Method 3

62-297.401(4), F.A.C.: EPA Test Method 4

62-297.401(5), F.A.C.: EPA Test Method 5

62-297.401(6), F.A.C.: EPA Test Method 6

62-297.401(6)(c), F.A.C.: EPA Test Method 6C

62-297.401(7), F.A.C.: EPA Test Method 7

62-297.401(7)(e), F.A.C.: EPA Test Method 7E

62-297.401(8), F.A.C.: EPA Test Method 8

62-297.401(9), F.A.C.: EPA Test Method 9

62-297.401(10), F.A.C.: EPA Test Method 10

62-297.401(18), F.A.C.: EPA Test Method 18

62-297.401(25)(a), F.A.C.: EPA Test Method 25A

III. EMISSIONS UNIT INFORMATION

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

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

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

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

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:
Boiler No. 2

3. Emissions Unit Identification Number: **002**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A			**20**	☐ Yes ☒ No

9. Package Unit:
Manufacturer: Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:

Vibrating grate boiler fired by carbonaceous fuel and fuel oil with a maximum sulfur content of 0.05% by weight.

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description: **Joy Turbulaire Impingement Scrubber, Size 125, Type D**
2. Control Device or Method Code(s): **001**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate: **230,000 lb/hr steam**	
3. Maximum Heat Input Rate: **447** mmBtu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule: **24** hours/day **52** weeks/year	 **7** days/week **8,760** hours/year
6. Operating Capacity/Schedule Comment: **Maximum heat input based on 1-hour maximum steam rate (above) for carbonaceous fuel of 230,000 lb/hr steam. Proposed maximum heat input for No. 2 fuel oil is 208 MMBtu/hr and 3,500,000 gal/yr.**	

EMISSIONS UNIT INFORMATION
Section [2] of [2]
Boiler No. 2

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: BLR-1		2. Emission Point Type Code: 1
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: V	6. Stack Height: 213 feet	7. Exit Diameter: 8.0 feet
8. Exit Temperature: 150 °F	9. Actual Volumetric Flow Rate: 201,000 acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet
13. Emission Point UTM Coordinates... Zone: East (km): North (km):		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)
15. Emission Point Comment:		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): External combustion boilers; Industrial; Bagasse; All boiler sizes		
2. Source Classification Code (SCC): 1-02-011-01	3. SCC Units: Tons Burned	
4. Maximum Hourly Rate: 62.08	5. Maximum Annual Rate: 543,850	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: Based on 447 MMBtu/hr and 3,600 Btu/lb wet bagasse.		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): External combustion boilers; Industrial; Bagasse; Distillate Oil; Grades 1 and 2		
2. Source Classification Code (SCC): 1-02-005-01	3. SCC Units: 1,000 Gallons Burned	
4. Maximum Hourly Rate: 1.541	5. Maximum Annual Rate: 3,500	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 0.05	8. Maximum % Ash:	9. Million Btu per SCC Unit: 135
10. Segment Comment: Maximum hourly and annual rates based on proposed 208 MMBtu/hr and of 3,500,000 gallons of No. 2 fuel oil per year. Also includes facility generated on-spec used oil and up to 500 cubic yards per season of petroleum contaminated soils.		

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
PM	001		EL
PM_{10}	001		EL
SO_2	001		EL
NO_x			NS
CO			NS
VOC			NS
SAM			NS
PB	001		NS
H021 (Beryllium)	001		NS
H144 (Phenol)			NS
H114 (Mercury)	001		NS

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **111.8** lb/hour **490** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.15 lb/MMBtu** Reference: **Permit No. 0510003-014-AV**	7. Emissions Method Code: **0**
8. Calculation of Emissions: **Bagasse: 447 MMBtu/hr × 0.25 lb/MMBtu = 111.8 lb/hr** **111.8 lb/hr × 8,760 hr/yr × ton/2000 lb = 490 TPY**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **Maximum emissions representative of bagasse firing.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.25 lb/MMBtu	4. Equivalent Allowable Emissions: 111.8 lb/hour 490 tons/year
5. Method of Compliance: EPA Method 5 or 17	
6. Allowable Emissions Comment (Description of Operating Method): Permit No. 0510003-014-AV. Emissions representative of bagasse firing only.	

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: 0.1 lb/MMBtu	4. Equivalent Allowable Emissions: 20.8 lb/hour 23.6 tons/year
5. Method of Compliance: EPA Method 5 or 17	
6. Allowable Emissions Comment (Description of Operating Method): Rule 62-296.410, F.A.C. Emissions representative of fuel oil firing. Annual emissions based on 3,500,000 gallons per any consecutive 12 mos.	

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/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: PM_{10}	2. Total Percent Efficiency of Control:
3. Potential Emissions: 104.0 lb/hour 455.7 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 93% of PM Reference: Test data	7. Emissions Method Code: 1
8. Calculation of Emissions: 111.8 lb/hr × 0.93 = 104.0 lb/hr 490 TPY × 0.93 = 455.7 TPY	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: Maximum emissions representative of bagasse firing.	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions _____ 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/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: SO_2	2. Total Percent Efficiency of Control:
3. Potential Emissions: **26.82** lb/hour **117.5** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.06 lb/MMBtu and 0.05% of S Oil** Reference: **Industry Test Data**	7. Emissions Method Code: **1**

8. Calculation of Emissions:

Bagasse: 447 MMBtu/hr × 0.06 lb/MMBtu = 26.82 lb/hr
Fuel Oil: 208 MMBtu/hr × 0.053 lb/MMBtu = 11.1 lb/hr

Annual: 26.82 lb/hr × 8,760 hr/yr × ton/2,000 lb = 117.5 TPY

9. Pollutant Potential/Estimated Fugitive Emissions Comment:

Fuel oil based on 0.05% sulfur oil. See Attachment UC-EU2-F9 for potential emissions due to fuel oil firing.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.05 % sulfur oil**	4. Equivalent Allowable Emissions: **11.1** lb/hour **12.6** tons/year
5. Method of Compliance: **Fuel oil analysis.**	
6. Allowable Emissions Comment (Description of Operating Method): **Requested limit. Emissions representative of fuel oil firing. Annual emissions based on 3,500,000 gallons per any consecutive 12 mos. See Attachment UC-EU2-F9 for calculations.**	

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/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: NO_x	2. Total Percent Efficiency of Control:
3. Potential Emissions: 89.4 lb/hour 391.6 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.20 lb/MMBtu Reference: Industry test data	7. Emissions Method Code: 1

8. Calculation of Emissions:

Bagasse: 0.20 lb/MMBtu × 447 MMBtu/hr = 89.4 lb/hr
89.4 lb/hr × 8,760 hr/yr × ton/2,000 lb = 391.6 TPY

Fuel oil: 0.15 lb/MMBtu × 208 MMBtu/hr = 31.2 lb/hr
472,500 MMBtu/yr × 0.15 lb/MMBtu × ton/2,000 lb = 35.4 TPY

9. Pollutant Potential/Estimated Fugitive Emissions Comment:
See Attachment UC-EU2-F9 for potential emissions due to fuel oil firing.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions _____ 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/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: **CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **2,905.5** lb/hour **12,726.1** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **6.5 lb/MMBtu** Reference: **Industry test data**	7. Emissions Method Code: **1**
8. Calculation of Emissions: **Bagasse: 6.5 lb/MMBtu × 447 MMBtu/hr = 2,905.5 lb/hr** **2,905.5 lb/hr × 8,760 hr/yr ÷ 2,000 lb/ton = 12,726.1 TPY** **Fuel oil: 0.037 lb/MMBtu × 208 MMBtu/hr = 7.7 lb/hr** **472,500 MMBtu/yr × 0.037 lb/MMBtu × ton/2,000 lb = 8.8 TPY**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **See Attachment UC-EU2-F9 for potential emissions due to fuel oil firing.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions _____ 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/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: VOC	2. Total Percent Efficiency of Control:
3. Potential Emissions: 670.5 lb/hour 2,936.8 tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 1.50 lb/MMBtu Reference: Industry test data	7. Emissions Method Code: 0
8. Calculation of Emissions: Bagasse: 1.50 lb/MMBtu × 447 MMBtu/hr = 670.5 lb/hr 670.5 lb/hr × 8,760 hr/yr ÷ 2,000 lb/ton = 2,936.8 TPY Fuel oil: 0.0015 lb/MMBtu × 208 MMBtu/hr = 0.3 lb/hr 472,500 MMBtu/yr × 0.0015 lb/MMBtu × ton/2,000 lb = 0.35 TPY	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: See Attachment UC-EU2-F9 for potential emissions due to fuel oil firing.	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions _____ 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 if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE30	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: 30 % Exceptional Conditions: 40 % Maximum Period of Excess Opacity Allowed: 2 min/hour	
4. Method of Compliance: DEP Method 9	
5. Visible Emissions Comment: Permit No. 0510003-014-AV and Rule 62-296.410(1)(b)1., F.A.C.	

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor 1 of 6

1. Parameter Code: **PRS**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **Custom Design** Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors pressure drop across wet scrubber. Monitored to ensure proper operation of scrubber.**	

Continuous Monitoring System: Continuous Monitor 2 of 6

1. Parameter Code: **FLOW**	2. Pollutant(s):
3. CMS Requirement: ☒ Rule ☐ Other	
4. Monitor Information... Manufacturer: **ITT Barton or equivalent** Model Number: **Flowco F500**	Serial Number: **see comment**
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Permit No. 0510003-014-AV. Monitors fuel oil flow to Boiler No. 2. No serial # or installation date provided because monitors are routinely replaced to ensure optimum performance.**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor 3 of 6

1. Parameter Code: **Nozzle Pressure**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **ABB-Kent Taylor or equivalent** Model Number: **621G**	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors wet scrubber spray nozzle pressure.**	

Continuous Monitoring System: Continuous Monitor 4 of 6

1. Parameter Code: **Steam Temp**	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: **Preferred Instruments or equivalent** Model Number: **PCC-III Controller**	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: **Monitors steam temperature.**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor 5 of 6

1. Parameter Code: Steam Pressure	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: ABB-Kent Taylor or equivalent Model Number: 621G	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: Monitors steam pressure.	

Continuous Monitoring System: Continuous Monitor 6 of 6

1. Parameter Code: FLOW	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☒ Other	
4. Monitor Information... Manufacturer: ABB-Kent Taylor or equivalent Model Number: 621D	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: Monitors steam flow rate.	

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: _____ ☒ 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: _____ ☒ 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

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)) ☐ Attached, Document ID: _____ ☒ Not Applicable	
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.) ☐ 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: _____ ☒ Not Applicable	
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	
5. Acid Rain Part Application ☐ Certificate of Representation (EPA Form No. 7610-1) ☐ Copy Attached, Document ID: _____ ☐ Acid Rain Part (Form No. 62-210.900(1)(a)) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date: _____ ☒ Not Applicable	

Additional Requirements Comment

ATTACHMENT UC-EU2-F9

POTENTIAL EMISSIONS
DUE TO FUEL OIL FIRING

Attachment UC-EU2-F9. Future Potential Emissions due to Fuel Oil Firing, Boiler No. 2, U. S. Sugar Corporation Clewiston

Regulated Pollutant	No. 2 Fuel Oil Combustion					
	Emission Factor (lb/MMBtu)	Ref.	Activity Factor		Hourly Emissions (lb/hr)	Annual Emissions (TPY)
			Hourly[a] MMBtu/hr	Annual[b] MMBtu/yr		
Particulate Matter (PM)	0.015	1	208	472,500	3.1	3.5
Particulate Matter (PM_{10})	0.007	2	208	472,500	1.5	1.8
Sulfur Dioxide (SO_2)	0.053	3	208	472,500	11.1	12.6
Nitrogen Oxides (NO_x)	0.15	4	208	472,500	31.2	35.4
Carbon Monoxide (CO)	0.037	1	208	472,500	7.7	8.8
Volatile Organic Compounds (VOC)	1.5E-03	1	208	472,500	0.3	0.35
Sulfuric Acid Mist (SAM)	0.0026	1	208	472,500	0.5	0.6
Lead (Pb)	9.0E-06	5	208	472,500	1.9E-03	2.1E-05
Beryllium (Be)	3.0E-06	5	208	472,500	6.2E-04	7.1E-06
Mercury (Hg)	3.0E-06	5	208	472,500	6.2E-04	7.1E-04

References:

1. Factors for No. 2 fuel oil combustion: AP-42 Tables 1.3-1 and 1.3-3 (9/98). For sulfuric acid mist, factor shown is for SO_3. Convert to H_2SO_4 by multiplying by 98/80. Factors were converted to lb/MMBtu by dividing by 135,000 Btu/gal.
   PM = 2 lb/1000 gal
   CO = 5 lb/1000 gal
   SO_3 = 5.7S lb/1000 gal, where S = 0.05 VOC = 0.2 lb/1000 gal
2. Factors for distillate fuel oil, PM_{10} is 50% of PM based on AP-42, Table 1.3-6 (9/98).
3. Based on stochiometric calculation: 7.2 lbs/gal; 135,000 Btu/gal; 0.05% sulfur.
4. Burner manufacturer's predicted emissions for Peabody MSC low-NOx burners.
5. Factors for No. 2 fuel oil combustion, AP-42 Table 1.3-10 (9/98).

Footnotes:

[a] Based on proposed maximum heat input due to No. 2 fuel oil combustion, calculated as folllows:
104 MMBtu/hr per burner x 2 burners = 208 MMBtu/hr

[b] Based on No. 2 fuel oil usage of 3,500,000 gallons per year and heating value of 135,000 Btu/gal.

ATTACHMENT UC-EU2-I7

OTHER INFORMATION
REQUIRED BY RULE OR STATUTE

ATTACHMENT UC-EU2-I7

LIST OF APPLICABLE REGULATIONS

62-296.410(1)(b), F.A.C.: Carbonaceous Fuel Burning Equipment

62-296.410(3), F.A.C.: Carbonaceous Fuel Burning Equipment

62-297.310(1), F.A.C.: General Compliance Test Requirements

62-297.310(2)(b), F.A.C.: General Compliance Test Requirements

62-297.310(3), F.A.C.: General Compliance Test Requirements

62-297.310(4), F.A.C.: General Compliance Test Requirements

62-297.310(5), F.A.C.: General Compliance Test Requirements

62-297.310(6), F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)3., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)4., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)5., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)9., F.A.C.: General Compliance Test Requirements

62-297.310(7)(a)10., F.A.C.: General Compliance Test Requirements

62-297.310(8), F.A.C.: General Compliance Test Requirements

62-297.401(1), F.A.C.: EPA Test Method 1

62-297.401(2), F.A.C.: EPA Test Method 2

62-297.401(3), F.A.C.: EPA Test Method 3

62-297.401(4), F.A.C.: EPA Test Method 4

62-297.401(5), F.A.C.: EPA Test Method 5

62-297.401(6), F.A.C.: EPA Test Method 6

62-297.401(6)(c), F.A.C.: EPA Test Method 6C

62-297.401(7), F.A.C.: EPA Test Method 7

62-297.401(7)(e), F.A.C.: EPA Test Method 7E

62-297.401(8), F.A.C.: EPA Test Method 8

62-297.401(9), F.A.C.: EPA Test Method 9

62-297.401(10), F.A.C.: EPA Test Method 10

62-297.401(18), F.A.C.: EPA Test Method 18

62-297.401(25)(a), F.A.C.: EPA Test Method 25A

ATTACHMENT A

SUPPLEMENTAL INFORMATION FOR CONSTRUCTION PERMIT APPLICATION

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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 Permit No. 510003-014-AV. U.S. Sugar harvests sugarcane and transports it to the Clewiston Mill, where the cane is processed into raw sugar in the mill. U.S. Sugar processes some of the raw sugar into refined white sugar in an onsite sugar refinery, while the remaining raw sugar is shipped to customers.

U.S. Sugar operates five sugar mill boilers at the Clewiston Mill. The five boilers provide steam to the sugar mill as well as to the sugar refinery. Boiler Nos. 1, 2, 3, and 4 operate primarily during the crop season, which is typically October through June, to provide steam to the sugar mill and refinery. Boiler No. 7 operates year-around to provide steam to the sugar mill during the crop season and steam to the sugar refinery during the off-crop season. Boiler No. 7 is the primary boiler used to meet the steam demands of the refinery during the off-crop season. Boiler Nos. 1 through 4 can operate as backup units during the off-season when Boiler No. 7 is down for maintenance, repair, or during periods of unusually low steam demand.

Boiler Nos. 1 and 2 are currently permitted to burn bagasse and No. 6 fuel oil. The maximum heat input due to bagasse is 495 million British thermal units per hour (MMBtu/hr) for Boiler No. 1 and 447 MMBtu/hr for Boiler No. 2. The maximum heat input to each boiler from fuel oil only is limited to 248 MMBtu/hr and 1,500 gallons per hour (gal/hr).

U.S. Sugar is proposing to replace the existing No. 6 fuel oil burners on Boiler Nos. 1 and 2 with new No. 2 fuel oil burners. The new burner system for each boiler will be rated for a maximum heat input of 208 MMBtu/hr. To implement this increase, U.S. Sugar will need to make certain physical modifications to the fuel oil burner system, including replacing the existing burners. U.S. Sugar is proposing to burn distillate fuel oil with a maximum sulfur content of 0.05 percent, instead of the currently permitted No. 6 fuel oil with a maximum sulfur content of 2.5 percent. The permitted steam rate from bagasse firing, bagasse firing rates and bagasse heat input rates will not change as a result of the changes to the fuel oil system.

The primary reason for increasing the steaming rate on oil for Boiler Nos.1 and 2 is to more reliably supply the sugar mill and refinery with adequate steam in the event that bagasse becomes unavailable during the crop season. Typically, if Boiler Nos. 1 and 2 are operating during the crop season or the off-season, other boilers are also operating due to the steam demands of the sugar mill and/or the refinery. In this case, if the bagasse supply is interrupted, all of the operating boilers would be affected, but the more reliable fuel oil firing capability of Boiler Nos. 1 and 2 would be more able to provide adequate steam production to support the mill and/or the refinery. Also, during a temporary interruption in the supply of bagasse, it is not possible to quickly startup one of the other mill boilers to provide additional steam, because of the period of time required for startup. Maintaining steam production under conditions when bagasse supply is interrupted is critical to the reliable and efficient operation of the sugar mill and refinery.

The remainder of this report is divided into two sections. Section 2.0 describes the proposed project in further detail, including air emissions. Section 3.0 provides a review of regulatory requirements applicable to the project.

2.0 PROJECT DESCRIPTION

2.1 PROPOSED PROJECT

Boiler Nos. 1 and 2 are each spreader stoker, vibrating grate-type boilers, both originally constructed at the Clewiston Mill in 1968. Particulate matter (PM) emissions from each boiler are controlled by Joy Turbulaire spray impingement-type scrubbers. Boiler Nos. 1 and 2 are currently permitted to burn bagasse and No. 6 fuel oil. The maximum heat input for bagasse firing is 496 MMBtu/hr for Boiler No. 1, and 447 MMBtu/hr for Boiler No. 2. During the crop season (defined as October through April of each year), the maximum sulfur content of the fuel oil is limited to 2.5 percent. During the off-season (May through September), the maximum sulfur content of the fuel oil burned in the boilers is 1.60 percent. The maximum heat input to each boiler from fuel oil only is limited to 248 MMBtu/hr and 1,500 gal/hr.

U.S. Sugar is proposing to replace the existing No. 6 fuel oil burners on Boiler Nos. 1 and 2 with new No. 2 fuel oil burners. The current maximum fuel oil firing rate is 1,500 gal/hr. This will be increased to 1,541 gal/hr of No. 2 fuel oil [at 135,000 British thermal units per gallon (Btu/gal)] by installing two (2) No. 2 fuel oil burners, each rated at 104 MMBtu/hr, in each boiler. U.S. Sugar is proposing to burn distillate fuel oil with a maximum of 0.05 percent sulfur. Maximum annual fuel oil burning will be limited to 3,500,000 gallons per year (gal/yr) per boiler.

The new burners will allow each boiler to produce up to 156,000 lb/hr steam when firing fuel oil only, as calculated below:

$$208 \text{ MMBtu/hr} \times 80\text{-percent efficiency} \div 1{,}068 \text{ Btu/lb steam} = 156{,}000 \text{ lb/hr steam}$$

This calculation is based on an estimated 80-percent thermal efficiency when burning fuel oil only.

The more reliable steam generation from fuel oil will primarily be utilized during the crop season in the event of interrupted bagasse supply. Boiler Nos. 1 and 2 are used only as a backup when they are operated during the off-crop season. Boiler Nos. 1, 2, 3, 4, and 7 are used as the primary units that meet the steam demands of the sugar mill and refinery during the crop season. These boilers burn bagasse as the primary fuel to generate steam for the sugar mill and refinery. All of the boilers are fed by the same bagasse system. If the bagasse supply were to be interrupted, it would affect all five boilers. Under such conditions, when bagasse becomes unavailable due to bagasse conveyor breakdown, rainy conditions, etc., steam production may have to be reduced. At times like this, typically U.S. Sugar cannot automatically start an additional boiler to help provide the needed steam. Cold startup of another boiler would take 12 to 24 hours.

Interruption of steam supply to the sugar mill and refinery results in operating inefficiencies. Equipment must be throttled back and sugar production is reduced. The sugar mill and refinery must then be operated longer hours to make up for the lost production. This results in increased labor and operating costs. With the more reliable fuel oil firing system, Boiler Nos. 1 and 2 can continue to provide sufficient steam to the mill and the refinery without significant interruption and minimal lost production time.

The physical changes to each Boiler Nos. 1 and 2 to implement the fuel oil burning upgrade consist of the following:

1. Two (2) new Peabody multi-stage combustion (MSC) low-nitrogen oxide (NO_x) burners, with fuel/steam valve train, steam-atomized center-fired oil gun, flame scanner, and ignitor and flame proving rod;
2. New multi-burner windbox with electrically operated modulating dampers;
3. New combustion air fan and ductwork;
4. New fuel oil pump set; and
5. New burner management system.

These components will replace the existing oil-firing system, which is more rudimentary (i.e., no burner management system).

The new burners will be low-NO_x burners. To accommodate the burners, some refractory on the boiler will need to be removed, and then replaced after the new burners are installed Removing of some steam tubes in the area of the new burners will also be required.

The furnace volume for Boiler Nos. 1 and 2 is approximately 9,670 cubic feet (ft^3). Based on the maximum heat input due to fuel oil of 208 MMBtu/hr per boiler, the calculated heat release rate for fuel oil firing will be 21,500 Btu/hr-ft^3 for each boiler.

Bagasse firing rates, bagasse heat input rates, and maximum steam rates for Boiler Nos. 1 and 2 will not be affected by these proposed changes. Fuel oil will primarily be utilized when bagasse is not available. U.S. Sugar intends to burn bagasse when it is available. Typically, No. 2 fuel oil is burned out of necessity.

2.2 PROJECT EMISSIONS

The estimated future potential hourly and annual emissions for the modified fuel oil firing in Boiler Nos. 1 and 2 are presented in Attachments UC-EU1-F9 and UC-EU2-F9. Emissions due to bagasse firing will not change; and, therefore, emissions due to bagasse firing are not addressed in these attachments.

The emission factors used for particulate matter (both PM and PM_{10}), carbon monoxide (CO), volatile organic compounds (VOCs), sulfuric acid mist (SAM), lead, mercury, and beryllium are from the Environmental Protection Agency's (EPA's) Publication AP-42, Section 3, which presents factors for No. 2 fuel oil combustion. The activity factors are based on the proposed maximum fuel oil heat input of 208 MMBtu/hr and the proposed annual limit of 3,500,000 gallons of fuel oil per year per boiler.

Emissions of sulfur dioxide (SO_2) are based on a stoichiometric calculation, using the maximum future sulfur content of 0.05 percent, and the density for very low sulfur No. 2 fuel oil of 7.2 lb/gal. Emissions of nitrogen oxides (NO_x) are based on the manufacturer's predicted emissions of 0.15 lb/MMBtu for the Peabody MSC burners.

The past actual emissions from Boiler Nos. 1 and 2 due to fuel oil firing are presented in Table 1. Detailed calculations are shown in Attachment B. The past actual emissions are based on the average emissions from 2002 and 2003. The emissions are from U.S. Sugar's Annual Operating Reports (AORs) submitted to the Florida Department of Environmental Protection (FDEP) for each respective year. Lead, beryllium, mercury, and SAM have not been required to be reported in the AORs, so these emissions were calculated using AP-42 factors for No. 2 fuel oil combustion and the activity factors for each respective year.

3.0 AIR QUALITY REVIEW REQUIREMENTS AND APPLICABILITY

The following discussion pertains to the federal and state air regulatory requirements and their applicability to the proposed increase in fuel oil firing rate.

3.1 PSD REVIEW

Under federal and State of Florida Prevention of Significant Deterioration (PSD) review requirements, all major new or modified sources of air pollutants regulated under the Clear Air Act (CAA) must be reviewed and a pre-construction permit issued. Florida's State Implementation Plan, which contains PSD regulations, has been approved by EPA; therefore, PSD approval authority has been granted to FDEP.

A "major facility" is defined as any one of 28 named source categories that have the potential to emit 100 tons per year (TPY) or more or any other stationary facility that has the potential to emit 250 TPY or more of any pollutant regulated under CAA. "Potential to emit" means the capability, at maximum design capacity, to emit a pollutant after the application of control equipment.

A "major modification" is defined under PSD regulations as a change at an existing major facility that increases emissions by greater than significant amounts. The net change in emissions due to the proposed project is presented in Table 2. The net increase due to the project is determined by subtracting Boiler Nos. 1 and 2's past actual emissions due to fuel oil firing from the future potential emissions resulting from fuel oil firing. Emissions due to bagasse firing are not included since these emissions will not be affected by the proposed project.

The net increase due to the project is compared to PSD significant emission rates in Table 2. As shown in Table 2, the increases due to this project do not exceed any PSD significant emission rates and therefore, PSD review is not applicable. In addition, U.S. Sugar believes PSD review is not applicable for the following reasons:

- The maximum steam rate for the boiler will not be affected;
- Steam rates, heat input rates and firing rates for bagasse will not be affected;
- U.S. Sugar intends to burn bagasse when it is available; and
- Emission factors for No. 2 fuel oil in terms of lb/MMBtu are lower than for No. 6 fuel oil or for bagasse burning, so emissions will not increase while Boiler Nos. 1 and 2 are firing very low sulfur No. 2 fuel oil.

3.2 NEW SOURCE PERFORMANCE STANDARDS

The New Source Performance Standards (NSPS) are a set of national emission standards that apply to specific categories of new sources. NSPS Subpart Db is applicable to each steam-generating unit for which construction, modification, or reconstruction is commenced after June 9, 1984, and that has a maximum design heat input rate of 100 MMBtu/hr or greater. Subpart Db regulates SO_2, NO_x, and PM emissions from steam generating units.

Two provisions under the general NSPS regulations (40 CFR Subpart 60, Subpart A) could potentially subject Boiler Nos. 1 and 2 to the Subpart Db NSPS. These are discussed in the following sections.

3.2.1 MODIFICATION

Boiler Nos. 1 and 2 are both "existing facilities" under the NSPS definitions, and are not currently subject to Subpart Db. Boiler Nos. 1 and 2 were originally constructed at the Clewiston Mill in 1968, and the existing oil burners were installed at that time. To become subject to NSPS, the proposed changes to Boiler Nos. 1 and 2 would need to meet the definition of "modification" as defined by 40 CFR 60.2. Modification is defined as:

> "Any physical change in, or change in method of operation of, an existing facility which increase the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted."

The emission increase is based on hourly emissions. To determine if the proposed changes to Boiler Nos. 1 and 2 qualify as a "modification", the current hourly SO_2, NO_x, and PM emissions were compared to the future potential emissions. These are the pollutants regulated under 40 CFR 60, Subpart Db. This comparison is presented in Table 3. The current hourly emissions are based on the current permitted No. 6 fuel oil firing rate of 248 MMBtu/hr and 1,500 gal/hr. Emission factors are based on the same factors used to calculate past actual emissions for the AOR. The future hourly potential emissions are based on Attachments UC-EU1-F9 and UC-EU2-F9.

As shown in Table 3, the proposed changes will not result in an hourly increase of SO_2, NO_x, or PM emissions. Therefore, the proposed changes to Boiler Nos. 1 and 2 will not meet the definition of "modification" under the NSPS, and Subpart Db requirements will not apply.

3.2.2 RECONSTRUCTION

A modification to an affected source is potentially subject to the NSPS if the modification meets the definition of "reconstruction". Reconstruction, as defined in 40 CFR 60.15, is triggered if the cost of the new components of the project exceeds 50 percent of the fixed capital cost of a comparable new boiler.

The fixed capital cost of installing the new fuel oil burner systems in Boiler Nos. 1 and 2 is approximately $400,000 per boiler. The estimated cost of a completely new boiler, comparable in size and function to Boiler Nos. 1 and 2, is approximately $7 million (excluding air pollution control equipment, which is not part of the "affected source" under NSPS Subpart Db). Therefore, the planned project cost represents less than 6 percent of the cost of a new boiler. Therefore, reconstruction is not triggered under NSPS.

Table 1. Past Actual Emissions Due to Fuel Oil Burning, Boiler Nos. 1 and 2
U.S. Sugar Corporation, Clewiston Mill

Regulated Pollutant	Boiler No. 1 Actual Emissions[a] (TPY)		Boiler No. 2 Actual Emissions[a] (TPY)		Boiler No. 1 + Boiler No. 2 2-Year Average (TPY)
	2002	2003	2002	2003	
Particulate Matter (PM)	6.18	5.06	5.63	4.09	10.48
Particulate Matter (PM_{10})	5.25	4.30	4.79	3.48	8.91
Sulfur Dioxide (SO_2)	46.41	38.64	42.28	31.27	79.30
Nitrogen Oxides (NO_x)	18.90	15.67	17.22	12.68	32.24
Carbon Monoxide (CO)	2.01	1.67	1.83	1.35	3.43
Volatile Organic Compound (VOC)	0.11	0.09	0.10	0.08	0.19
Sulfur Acid Mist (SAM)	2.05	1.70	1.86	1.38	3.50
Lead - Total	6.07E-04	5.04E-04	5.53E-04	4.08E-04	1.04E-03
Beryllium (Be)	1.12E-05	9.27E-06	1.02E-05	7.50E-06	1.91E-05
Mercury (Hg)	4.54E-05	3.77E-05	4.14E-05	3.05E-05	7.75E-05

Footnotes:

[a] Based on Annual Operating Report submitted to FDEP for 2002 and 2003, except for:
SAM, Be and Hg not reported on the AOR; emissions based on AP-42 factors, see Attachment B.

Table 2. Net Change in Emissions Due to Modified Fuel Oil Firing Rates, Boiler No. 4, U.S. Sugar Corporation Clewiston

Regulated Pollutant	Boiler Nos. 1 & 2 Past Actual Emissions[a] (TPY)	Boiler Nos. 1 & 2 Future Potential Emissions[b] (TPY)	Net Change in Emissions (TPY)	PSD Significant Emission Rate (TPY)	PSD Review Applies?
Particulate Matter (PM)	10.48	7.0	-3.5	25	NO
Particulate Matter (PM_{10})	8.91	3.5	-5.4	15	NO
Sulfur Dioxide (SO_2)	79.30	25.2	-54.1	40	NO
Nitrogen Oxides (NO_x)	32.24	70.9	38.6	40	NO
Carbon Monoxide (CO)	3.43	17.5	14.1	100	NO
Volatile Organic Compound (VOC)	0.19	0.70	0.51	40	NO
Lead - Total	1.0E-03	4.3E-05	-9.9E-04	0.6	NO
Sulfur Acid Mist (SAM)	3.50	1.2	-2.3	7	NO
Beryllium (Be)	1.9E-05	1.4E-05	-4.9E-06	4.0E-04	NO
Mercury (Hg)	7.8E-05	1.4E-03	1.3E-03	0.1	NO

Note:

[a] Based on emissions due to fuel oil firing in Boiler Nos. 1 and 2 for calendar years 2002 and 2003. See Table 1.

[b] Based on proposed fuel oil firing rates. See Attachments UC-EU1-F9 and UC-EU2-F9 for calculations.

Table 3. Current Versus Future Maximum Hourly Emissions Due to
Fuel Oil Firing in Boiler Nos. 1 and 2, U.S. Sugar Corporation Clewiston

Regulated Pollutant	Maximum Hourly Emissions Current [a] (lb/hr)	Maximum Hourly Emissions Future [b] (lb/hr)	Increase in Maximum Hourly Emissions? (Yes/No)
Particulate Matter (PM)	22.8	3.1	No
Sulfur Dioxide (SO_2)	172.5	11.1	No
Nitrogen Oxides (NO_x)	70.5	31.2	No

Note:

[a] Based on 1,500 gal/hr of No. 6 fuel oil, and emission factors shown in Attachment B.

[b] Based on Attachments UC-EU1-F9 and UC-EU2-F9.

ATTACHMENT B

2002 AND 2003 EMISSIONS INFORMATION FROM ANNUAL OPERATING REPORTS

Table B-1. 2002 Emissions of Criteria Pollutants for U.S. Sugar Corporation Clewiston Boiler No. 1

Regulated Pollutant	Emission Factors								Total Annual Emissions (TPY)
	Carbonaceous Fuel				No. 6 Fuel Oil				
	Emission Factor (lb/ton)	Reference	Annual Fuel Usage (TPY)	Annual Emissions (TPY)	Emission Factor (lb/1,000 gal)	Reference	Annual Fuel Usage (Gallons/yr)	Annual Emissions (TPY)	
Criteria and Precursor Air Pollutants									
Particulate Matter (PM)	1.296	1	188,782	122.33	15.36	4 (b)	804,298	6.18	128.51
Particulate Matter (PM_{10})	1.205	(a)	188,782	113.77	13.06	(a)	804,298	5.25	119.02
Sulfur Dioxide (SO_2)	0.073	1	188,782	6.89	115.40	5 (b)	804,298	46.41	53.30
Nitrogen Oxides (NO_x)	0.677	1	188,782	63.90	47	5	804,298	18.90	82.80
Carbon Monoxide (CO)	49.262	1	188,782	4,649.89	5	5	804,298	2.01	4,651.90
Volatile Organic Compounds (VOC)	1.668	2	188,782	157.44	0.28	6	804,298	0.11	157.56
Sulfuric Acid Mist (SAM)	0.0032	8	188,782	0.30	5.09	8	804,298	2.05	2.35
Lead - Total (PB)	4.45E-04	3	188,782	0.04	1.51E-03	7	804,298	6.07E-04	0.04
Beryllium (Be)	--		--	--	2.78E-05	7	804,298	1.12E-05	1.12E-05
Mercury (Hg)	--		--	--	1.13E-04	7	804,298	4.54E-05	4.54E-05

Note:
(a) Assuming 93% of PM is PM_{10} for bagasse, and 85% of PM is PM_{10} for No. 6 fuel oil.
(b) Average sulfur content of the fuel mix is 1.47%.
Unless otherwise specified, heating values for each fuel are as follows: 3,600 Btu/lb for wet bagasse and 153,645 Btu/gal for No. 6 fuel oil.

1. Based on compliance test data, conducted by Air Consulting and Engineering:

PM	0.180 lb/MMBtu	11/20/2002
SO_2	0.0101 lb/MMBtu	12/8/2000
NO_x	0.094 lb/MMBtu	1/3/1995
CO	6.842 lb/MMBtu	1994 - 1995

2. Based on test data for similar bagasse boiler. (Bryant Boilers 1, 2, and 3 average = 0.232 lb/MMBtu.)
3. Based on EPA's AP-42 Table 1.6-5, "Emission Factors for Trace Elements from Wood Waste Combustion with PM controls" (2/99).
4. Based on emission limit of 0.1 lb/MMBtu for PM while firing No. 6 fuel oil.
5. Based on AP-42 Table 1.3-1, "Criteria Pollutant Emission Factors for Fuel Oil Combustion" (9/98), No. 6 fuel oil, normal firing. Assume 50% SO_2 removal from scrubber.
6. Based on AP-42 Table 1.3-3, "Emission Factors for Total Organic Compounds (TOC), Methane, and Nonmethane TOC (NMTOC) from Uncontrolled Fuel Oil Combustion" (9/98).
7. Based on AP-42 Table 1.3-11, "Emission Factors for Metals from Uncontrolled No. 6 Fuel Oil Combustion" (9/98).
8. From AP-42 Table 1.3-1: SO_3 represents 3.6% of SO_2; then convert to H_2SO_4 (x 98/80).

Table B-2. 2002 Emissions of Criteria Pollutants for U.S. Sugar Corporation Clewiston Boiler No. 2

Regulated Pollutant	Emission Factors								Total Annual Emissions (TPY)
	Carbonaceous Fuel				No. 6 Fuel Oil				
	Emission Factor (lb/ton)	Reference	Annual Fuel Usage (TPY)	Annual Emissions (TPY)	Emission Factor (lb/1,000 gal)	Reference	Annual Fuel Usage (Gallons/yr)	Annual Emissions (TPY)	
Criteria and Precursor Air Pollutants									
Particulate Matter (PM)	1.296	1	225,369	146.04	15.36	5 (b)	732,805	5.63	151.67
Particulate Matter (PM_{10})	1.205	(a)	225,369	135.82	13.06	(a)	732,805	4.79	140.60
Sulfur Dioxide (SO_2)	0.073	2	225,369	8.23	115.40	6 (b)	732,805	42.28	50.51
Nitrogen Oxides (NO_x)	0.727	1	225,369	81.92	47	6	732,805	17.22	99.14
Carbon Monoxide (CO)	70.834	1	225,369	7,981.89	5	6	732,805	1.83	7,983.73
Volatile Organic Compounds (VOC)	1.668	3	225,369	187.96	0.28	7	732,805	0.10	188.06
Sulfuric Acid Mist (SAM)	0.0032	9	225,369	0.36	5.09	9	732,805	1.86	2.23
Lead - Total	4.45E-04	4	225,369	0.05	1.51E-03	8	732,805	5.53E-04	0.05
Beryllium (Be)	--		--	--	2.78E-05	8	732,805	1.02E-05	1.02E-05
Mercury (Hg)	--		--	--	1.13E-04	8	732,805	4.14E-05	4.14E-05

Note:
(a) Assuming 93% of PM is PM_{10} for bagasse, and 85% of PM is PM_{10} for No. 6 fuel oil.
(b) Average sulfur content of the fuel mix is 1.47%.
Unless otherwise specified, heating values for each fuel are as follows: 3,600 Btu/lb for wet bagasse and 153,645 Btu/gal for No. 6 fuel oil.

1. Based on compliance test data, conducted by Air Consulting and Engineering:

PM	0.180 lb/MMBtu	12/17/2002
NO_x	0.101 lb/MMBtu	1/4/1995
CO	9.838 lb/MMBtu	1994 - 1995

2. Based on compliance test data, conducted by Air Consulting and Engineering for Boiler No. 1, 0.0101 lb/MMBtu (12/8/00).
3. Based on test data for similar bagasse boiler. (Bryant Boilers 1, 2, and 3 average = 0.232 lb/MMBtu.)
4. Based on EPA's AP-42 Table 1.6-5, "Emission Factors for Trace Elements from Wood Waste Combustion with PM Controls", (2/99).
5. Based on emission limit of 0.1 lb/MMBtu for PM while firing No. 6 fuel oil.
6. Based on AP-42 Table 1.3-1, "Criteria Pollutant Emission Factors for Fuel Oil Combustion" (9/98), No. 6 fuel oil, normal firing. Assume 50% SO_2 removal from scrubber.
7. Based on AP-42 Table 1.3-3, "Emission Factors for Total Organic Compounds (TOC), Methane, and Nonmethane TOC (NMTOC) from Uncontrolled Fuel Oil Combustion" (9/98).
8. Based on AP-42 Table 1.3-11, "Emission Factors for Metals from Uncontrolled No. 6 Fuel Oil Combustion" (9/98).
9. From AP-42 Table 1.3-1: SO_3 represents 3.6% of SO_2; then convert to H_2SO_4 (x 98/80).

Table B-3. 2003 Emissions of Criteria Pollutants for U.S. Sugar Corporation Clewiston Boiler No. 1

Regulated Pollutant	Emission Factors								Total
	Carbonaceous Fuel				No. 6 Fuel Oil				
	Emission Factor (lb/ton)	Reference	Annual Fuel Usage (TPY)	Annual Emissions (TPY)	Emission Factor (lb/1,000 gal)	Reference	Annual Fuel Usage (Gallons/yr)	Annual Emissions (TPY)	Annual Emissions (TPY)
Criteria and Precursor Air Pollutants									
Particulate Matter (PM)	1.267	1	176,732	111.96	15.17	4 (b)	666,974	5.06	117.02
Particulate Matter (PM_{10})	1.178	(a)	176,732	104.12	12.89	(a)	666,974	4.30	108.42
Sulfur Dioxide (SO_2)	0.073	1	176,732	6.45	115.87	5 (b)	666,974	38.64	45.09
Nitrogen Oxides (NO_x)	0.677	1	176,732	59.82	47	5	666,974	15.67	75.50
Carbon Monoxide (CO)	49.262	1	176,732	4,353.09	5	5	666,974	1.67	4,354.75
Volatile Organic Compounds (VOC)	1.778	2	176,732	157.11	0.28	6	666,974	0.09	157.21
Sulfuric Acid Mist (SAM)	0.0032	8	176,732	0.28	5.11	8	666,974	1.70	1.99
Lead - Total (PB)	2.45E-05	3	176,732	0.002	1.51E-03	7	666,974	5.04E-04	0.003
Beryllium (Be)	--		--	--	2.78E-05	7	666,974	9.27E-06	9.27E-06
Mercury (Hg)	--		--	--	1.13E-04	7	666,974	3.77E-05	3.77E-05

Note:
(a) Assuming 93% of PM is PM_{10} for bagasse, and 85% of PM is PM_{10} for No. 6 fuel oil.
(b) Average sulfur content of the fuel mix is 1.476%.
Unless otherwise specified, heating values for each fuel are as follows: 3,600 Btu/lb for wet bagasse and 151,704 Btu/gal for No. 6 fuel oil.

1. Based on compliance test data, conducted by Air Consulting and Engineering:	PM	0.176 lb/MMBtu	11/14/2003
	SO_2	0.0101 lb/MMBtu	12/8/2000
	NO_x	0.094 lb/MMBtu	1/3/1995
	CO	6.842 lb/MMBtu	1994 - 1995

2. Based on test data for similar bagasse boiler. (Bryant Boilers 1, 2, and 3 average = 0.247 lb/MMBtu.)
3. Based on average industry test data of 3.4E-06 lb/MMBtu or less.
4. Based on emission limit of 0.1 lb/MMBtu for PM while firing No. 6 fuel oil.
5. Based on AP-42 Table 1.3-1, "Criteria Pollutant Emission Factors for Fuel Oil Combustion" (9/98), No. 6 fuel oil, normal firing. Assume 50% SO_2 removal from scrubber.
6. Based on AP-42 Table 1.3-3, "Emission Factors for Total Organic Compounds (TOC), Methane, and Nonmethane TOC (NMTOC) from Uncontrolled Fuel Oil Combustion" (9/98).
7. Based on AP-42 Table 1.3-11, "Emission Factors for Metals from Uncontrolled No. 6 Fuel Oil Combustion" (9/98).
8. From AP-42 Table 1.3-1: SO_3 represents 3.6% of SO_2; then convert to H_2SO_4 (x 98/80).

Table B-4. 2003 Emissions of Criteria Pollutants for U.S. Sugar Corporation Clewiston Boiler No. 2

Regulated Pollutant	Emission Factors								Total Annual Emissions (TPY)
	Carbonaceous Fuel				No. 6 Fuel Oil				
	Emission Factor (lb/ton)	Reference	Annual Fuel Usage (TPY)	Annual Emissions (TPY)	Emission Factor (lb/1,000 gal)	Reference	Annual Fuel Usage (Gallons/yr)	Annual Emissions (TPY)	
Criteria and Precursor Air Pollutants									
Particulate Matter (PM)	1.433	1	216,540	155.15	15.17	5 (b)	539,742	4.09	159.24
Particulate Matter (PM_{10})	1.333	(a)	216,540	144.29	12.89	(a)	539,742	3.48	147.77
Sulfur Dioxide (SO_2)	0.360	2	216,540	38.98	115.87	6 (b)	539,742	31.27	70.25
Nitrogen Oxides (NO_x)	0.727	1	216,540	78.71	47	6	539,742	12.68	91.40
Carbon Monoxide (CO)	70.834	1	216,540	7,669.20	5	6	539,742	1.35	7,670.55
Volatile Organic Compounds (VOC)	1.778	3	216,540	192.50	0.28	7	539,742	0.08	192.58
Sulfuric Acid Mist (SAM)	0.0159	9	216,540	1.72	5.11	9	539,742	1.38	3.10
Lead - Total	2.45E-05	4	216,540	0.003	1.51E-03	8	539,742	4.08E-04	0.003
Beryllium (Be)	--		--	--	2.78E-05	8	539,742	7.50E-06	7.50E-06
Mercury (Hg)	--		--	--	1.13E-04	8	539,742	3.05E-05	3.05E-05

Note:
(a) Assuming 93% of PM is PM_{10} for bagasse, and 85% of PM is PM_{10} for No. 6 fuel oil.
(b) Average sulfur content of the fuel mix is 1.476%.
Unless otherwise specified, heating values for each fuel are as follows: 3,600 Btu/lb for wet bagasse and 151,704 Btu/gal for No. 6 fuel oil.

1. Based on compliance test data, conducted by Air Consulting and Engineering:

PM	0.199 lb/MMBtu	11/18/2003
NO_x	0.101 lb/MMBtu	1/4/1995
CO	9.838 lb/MMBtu	1994 - 1995

2. Based on average industry test data of 0.05 lb/MMBtu or less.
3. Based on test data for similar bagasse boiler. (Bryant Boilers 1, 2, and 3 average = 0.247 lb/MMBtu.)
4. Based on average industry test data of 3.4E-06 lb/MMBtu or less.
5. Based on emission limit of 0.1 lb/MMBtu for PM while firing No. 6 fuel oil.
6. Based on AP-42 Table 1.3-1, "Criteria Pollutant Emission Factors for Fuel Oil Combustion" (9/98), No. 6 fuel oil, normal firing. Assume 50% SO_2 removal from scrubber.
7. Based on AP-42 Table 1.3-3, "Emission Factors for Total Organic Compounds (TOC), Methane, and Nonmethane TOC (NMTOC) from Uncontrolled Fuel Oil Combustion" (9/98).
8. Based on AP-42 Table 1.3-11, "Emission Factors for Metals from Uncontrolled No. 6 Fuel Oil Combustion" (9/98).
9. From AP-42 Table 1.3-1: SO_3 represents 3.6% of SO_2; then convert to H_2SO_4 (x 98/80).