

**Golder Associates Inc.**

6241 NW 23rd Street, Suite 500  
Gainesville, FL 32653-1500  
Telephone (352) 336-5600  
Fax (352) 336-6603



December 19, 2002

0237615

Florida Department of Environmental Protection  
Department of Air Resources Management  
2600 Blair Stone Road, MS 5500  
Tallahassee, FL 32399-2400

Attention : Mr. A. A. Linero, P. E., Administrator

RE: UNITED STATES SUGAR CORPORATION (U.S. SUGAR) – CLEWISTON MILL  
BOILER NO. 4 FUEL OIL BURNING INCREASE

Dear Mr. Linero:

Please find enclosed three (3) copies of an air construction permit application for an increase in the fuel oil burning capability of Boiler No. 4 at the Clewiston Mill. We believe that the new system will not result in an increase in actual emissions of any pollutant, and therefore PSD review does not apply. I have forwarded one (1) copy of the application to Ron Blackburn of the Department's Ft. Myers office.

Please call or e-mail me if you have any questions concerning this application.

Sincerely,

GOLDER ASSOCIATES INC.

A handwritten signature in cursive script that reads 'David A. Buff'.

David A. Buff, P.E., Q.E.P.  
Principal Engineer

DB/jkw

Enclosure

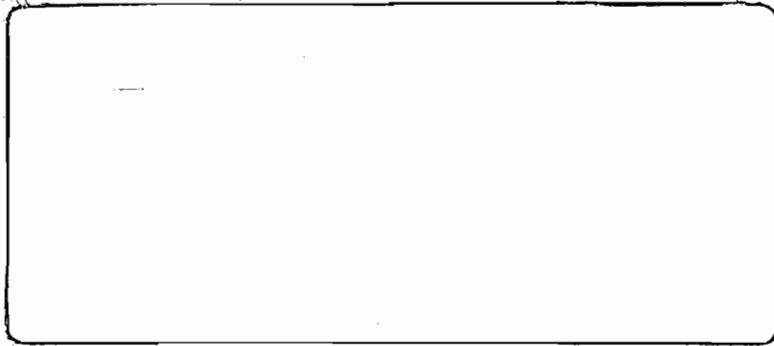
cc: Don Griffin  
Sarah Watson  
Ron Blackburn, DEP

RECEIVED

DEC 20 2002

BUREAU OF AIR REGULATION

P:\Projects\2002\0237615 USSC Clewiston\44.1\121902.doc



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**BUREAU OF AIR REGULATION**

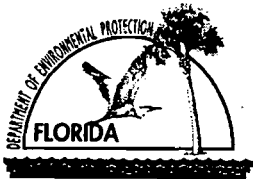
**AIR PERMIT APPLICATION  
TO INCREASE FUEL OIL FIRING RATE  
BOILER NO. 4  
U.S. SUGAR CORPORATION  
CLEWISTON, FLORIDA**

**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**

**December 2002  
0237615**

**DISTRIBUTION:  
4 Copies – FDEP, Ft. Myers  
2 Copies – U.S. Sugar  
2 Copies – Golder Associates Inc.**



# Department of Environmental Protection

## Division of Air Resources Management

### APPLICATION FOR AIR PERMIT - TITLE V SOURCE

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

#### I. APPLICATION INFORMATION

**RECEIVED**  
DEC 20 2002  
BUREAU OF AIR REGULATION

#### Identification of Facility

1. Facility Owner/Company Name: <b>United States Sugar Corporation</b>	
2. Site Name: <b>Clewiston Mill</b>	
3. Facility Identification Number: <b>0510003</b> [ ] Unknown	
4. Facility Location: Street Address or Other Locator: <b>South W.C. Owens Ave. and S.R. 832</b> City: <b>Clewiston</b> County: <b>Hendry</b> Zip Code: <b>33440</b>	
5. Relocatable Facility? [ ] Yes [ <b>X</b> ] No	6. Existing Permitted Facility? [ <b>X</b> ] Yes [ ] No

#### Application Contact

1. Name and Title of Application Contact: <b>William A. Raiola, Senior Vice President, Sugar Processing</b>	
2. Application Contact Mailing Address: Organization/Firm: <b>United States Sugar Corporation</b> Street Address: <b>111 Ponce DeLeon Ave.</b> City: <b>Clewiston</b> State: <b>FL</b> Zip Code: <b>33440</b>	
3. Application Contact Telephone Numbers: Telephone: <b>( 863 ) 902 - 2703</b> Fax: <b>( 863 ) 902 - 2729</b>	

#### Application Processing Information (DEP Use)

1. Date of Receipt of Application:	<i>12-20-2002</i>
2. Permit Number:	<i>0510003-019-AC</i>
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

**Purpose of Application**

**Air Operation Permit Application**

This Application for Air Permit is submitted to obtain: (Check one)

Initial Title V air operation permit for an existing facility which is classified as a Title V source.

Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number: \_\_\_\_\_

Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: \_\_\_\_\_

Operation permit number to be revised: \_\_\_\_\_

Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.)

Operation permit number to be revised/corrected: \_\_\_\_\_

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

Operation permit number to be revised: \_\_\_\_\_

Reason for revision: \_\_\_\_\_

**Air Construction Permit Application**

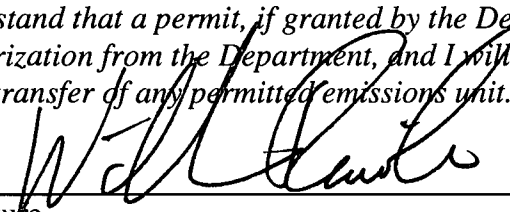
This Application for Air Permit is submitted to obtain: (Check one)

Air construction permit to construct or modify one or more emissions units.

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

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

**Owner/Authorized Representative or Responsible Official**

1. Name and Title of Owner/Authorized Representative or Responsible Official: <b>William R. Raiola, Senior Vice President - Sugar Processing</b>
2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: <b>United States Sugar Corporation</b> Street Address: <b>111 Ponce DeLeon Ave.</b> City: <b>Clewiston</b> State: <b>FL</b> Zip Code: <b>33440</b>
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: <b>( 863 ) 902 - 2703</b> Fax: <b>( 863 ) 902 - 2729</b>
4. Owner/Authorized Representative or Responsible Official Statement: <i>I, the undersigned, am the owner or authorized representative*(check here [ ], if so) or the responsible official (check here [X], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.</i>   Signature _____ Date <u>12/5/02</u>

\* Attach letter of authorization if not currently on file.

**Professional Engineer Certification**

1. Professional Engineer Name: <b>David A. Buff</b> Registration Number: <b>19011</b>
2. Professional Engineer Mailing Address: Organization/Firm: <b>Golder Associates Inc. *</b> Street Address: <b>6241 NW 23rd Street, Suite 500</b> City: <b>Gainesville</b> State: <b>FL</b> Zip Code: <b>32653-1500</b>
3. Professional Engineer Telephone Numbers: Telephone: <b>( 352 ) 336 - 5600</b> Fax: <b>( 352 ) 336 - 6603</b>

\* Board of Professional Engineers Certificate of Authorization #00001670

4. 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.*

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

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

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

Signature

*David A. Buff*

Date

*12/18/02*

(seal)

\*Attach any exception to certification statement.

**Scope of Application**

<b>Emissions Unit ID</b>	<b>Description of Emissions Unit</b>	<b>Permit Type</b>	<b>Processing Fee</b>
004	Boiler No. 4	AC1B	

**Application Processing Fee**

Check one: [ ] Attached - Amount: \$: \_\_\_\_\_ [ X ] Not Applicable



**Construction/Modification Information**

1. Description of Proposed Project or Alterations:

United States Sugar Corp. is proposing to increase the maximum hourly heat input due to fuel oil combustion from 225 MMBtu/hr to 326.25 MMBtu/hr for Boiler No. 4. This increase will enable Boiler No. 4 to continue to provide steam to the mill and refinery when bagasse is not available (i.e. due to bagasse conveyor breakdown, rainy conditions, etc.). See Attachment A for more details.

2. Projected or Actual Date of Commencement of Construction: **February 1, 2003**

3. Projected Date of Completion of Construction: **March 30, 2004**

**Application Comment**

[Empty box for Application Comment]

## 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 / 6		Longitude (DD/MM/SS): 80 / 56 / 19	
3. Governmental Facility Code:	4. Facility Status Code:	5. Facility Major Group SIC Code:	6. Facility SIC(s):
0	A	20	2061, 2062
7. Facility Comment (limit to 500 characters):			

#### Facility Contact

1. Name and Title of Facility Contact:			
William A. Raiola, 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 ) 902 - 2703		Fax: ( 863 ) 902 - 2729	

**Facility Regulatory Classifications**

Check all that apply:

1. <input type="checkbox"/> Small Business Stationary Source?	<input type="checkbox"/> Unknown
2. <input checked="" type="checkbox"/> Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?	
3. <input type="checkbox"/> Synthetic Minor Source of Pollutants Other than HAPs?	
4. <input checked="" type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)?	
5. <input type="checkbox"/> Synthetic Minor Source of HAPs?	
6. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NSPS?	
7. <input type="checkbox"/> One or More Emission Units Subject to NESHAP?	
8. <input type="checkbox"/> Title V Source by EPA Designation?	
9. Facility Regulatory Classifications Comment (limit to 200 characters):	
<p><b>One or more emission units potentially subject to NESHAP for asbestos removal in the event that the facility may wish to perform asbestos removal in the future.</b></p>	

**List of Applicable Regulations**

<b>Attachment UC-FI-A - Title V core list, effective date 3/01/02</b>	

## B. FACILITY POLLUTANTS

### List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap		4. Basis for Emissions Cap	5. Pollutant Comment
		lb/hour	tons/year		
PM	A				Particulate Matter – Total
SO <sub>2</sub>	A				Sulfur Dioxide
NO <sub>x</sub>	A				Nitrogen Oxides
CO	A				Carbon Monoxide
PM <sub>10</sub>	A				Particulate Matter – PM <sub>10</sub>
SAM	A				Sulfuric Acid Mist
HAPs	A				Total Hazardous Air Pollutants
VOC	A				Volatile Organic Compounds
H001	A				Acetaldehyde
H017	A				Benzene
H095	A				Formaldehyde
H144	A				Phenol
H151	A				Polycyclic Organic Matter
H163	A				Styrene
H169	A				Toluene
H132	A				Naphthalene
H058	A				Dibenzofuran

**C. FACILITY SUPPLEMENTAL INFORMATION**

**Supplemental Requirements**

1. Area Map Showing Facility Location: [ <b>X</b> ] Attached, Document ID: <u>UC-FI-C1</u> [ ] Not Applicable [ ] Waiver Requested
2. Facility Plot Plan: [ <b>X</b> ] Attached, Document ID: <u>UC-FI-C2</u> [ ] Not Applicable [ ] Waiver Requested
3. Process Flow Diagram(s): [ <b>X</b> ] Attached, Document ID: <u>UC-FI-C3</u> [ ] Not Applicable [ ] Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: [ ] Attached, Document ID: _____ [ <b>X</b> ] Not Applicable [ ] Waiver Requested
5. Fugitive Emissions Identification: [ ] Attached, Document ID: _____ [ <b>X</b> ] Not Applicable [ ] Waiver Requested
6. Supplemental Information for Construction Permit Application: [ <b>X</b> ] Attached, Document ID: <u>Attachment A</u> [ ] Not Applicable
7. Supplemental Requirements Comment:

**Additional Supplemental Requirements for Title V Air Operation Permit Applications**

8. List of Proposed Insignificant Activities: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. List of Equipment/Activities Regulated under Title VI: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Equipment/Activities On site but Not Required to be Individually Listed <input checked="" type="checkbox"/> Not Applicable
10. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Risk Management Plan Verification: <input type="checkbox"/> Plan previously submitted to Chemical Emergency Preparedness and Prevention Office (CEPPO). Verification of submittal attached (Document ID: _____) or previously submitted to DEP (Date and DEP Office: _____) <input type="checkbox"/> Plan to be submitted to CEPPO (Date required: _____) <input checked="" type="checkbox"/> Not Applicable
14. Compliance Report and Plan: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
15. Compliance Certification (Hard-copy Required): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**ATTACHMENT UC-FI-A**

**FACILITY REGULATIONS**

# Title V Core List

Effective: 03/01/02

[**Note:** The Title V Core List is meant to simplify the completion of the "List of Applicable Regulations" for DEP Form No. 62-210.900(1), Application for Air Permit - Long Form. The Title V Core List is a list of rules to which all Title V Sources are presumptively subject. The Title V Core List may be referenced in its entirety, or with specific exceptions. The Department may periodically update the Title V Core List.]

## **Federal:** (description)

40 CFR 61, Subpart M: NESHAP for Asbestos.

40 CFR 82: Protection of Stratospheric Ozone.

40 CFR 82, Subpart B: Servicing of Motor Vehicle Air Conditioners (MVAC).

40 CFR 82, Subpart F: Recycling and Emissions Reduction.

## **State:** (description)

### **CHAPTER 62-4, F.A.C.: PERMITS, effective 06-01-01**

62-4.030, F.A.C.: General Prohibition.

62-4.040, F.A.C.: Exemptions.

62-4.050, F.A.C.: Procedure to Obtain Permits; Application

62-4.060, F.A.C.: Consultation.

62-4.070, F.A.C.: Standards for Issuing or Denying Permits; Issuance; Denial.

62-4.080, F.A.C.: Modification of Permit Conditions.

62-4.090, F.A.C.: Renewals.

62-4.100, F.A.C.: Suspension and Revocation.

62-4.110, F.A.C.: Financial Responsibility.

62-4.120, F.A.C.: Transfer of Permits.

62-4.130, F.A.C.: Plant Operation - Problems.

62-4.150, F.A.C.: Review

62-4.160, F.A.C.: Permit Conditions.

62-4.210, F.A.C.: Construction Permits.

62-4.220, F.A.C.: Operation Permit for New Sources.

### **CHAPTER 62-210, F.A.C.: STATIONARY SOURCES - GENERAL REQUIREMENTS, effective 06-21-01**

62-210.300, F.A.C.: Permits Required.

62-210.300(1), F.A.C.: Air Construction Permits.

62-210.300(2), F.A.C.: Air Operation Permits.

62-210.300(3), F.A.C.: Exemptions.

62-210.300(5), F.A.C.: Notification of Startup.

62-210.300(6), F.A.C.: Emissions Unit Reclassification.

62-210.300(7), F.A.C.: Transfer of Air Permits.



## **Title V Core List**

Effective: 03/01/02

62-210.350, F.A.C.: Public Notice and Comment.  
62-210.350(1), F.A.C.: Public Notice of Proposed Agency Action.  
62-210.350(2), F.A.C.: Additional Public Notice Requirements for Emissions Units Subject to Prevention of Significant Deterioration or Nonattainment-Area Preconstruction Review.  
62-210.350(3), F.A.C.: Additional Public Notice Requirements for Sources Subject to Operation Permits for Title V Sources.

62-210.360, F.A.C.: Administrative Permit Corrections.  
62-210.370(3), F.A.C.: Annual Operating Report for Air Pollutant Emitting Facility.  
62-210.400, F.A.C.: Emission Estimates.  
62-210.650, F.A.C.: Circumvention.  
62-210.700, F.A.C.: Excess Emissions

62-210.900, F.A.C.: Forms and Instructions.  
62-210.900(1), F.A.C.: Application for Air Permit - Title V Source, Form and Instructions.  
62-210.900(5), F.A.C.: Annual Operating Report for Air Pollutant Emitting Facility, Form and Instructions.  
62-210.900(7), F.A.C.: Application for Transfer of Air Permit - Title V and Non-Title V Source.

**CHAPTER 62-212, F.A.C.: STATIONARY SOURCES- PRECONSTRUCTION REVIEW,**  
effective 08-17-00

**CHAPTER 62-213, F.A.C.: OPERATION PERMITS FOR MAJOR SOURCES OF AIR POLLUTION,**  
effective 04-16-01

62-213.205, F.A.C.: Annual Emissions Fee.  
62-213.400, F.A.C.: Permits and Permit Revisions Required.  
62-213.410, F.A.C.: Changes Without Permit Revision.  
62-213.412, F.A.C.: Immediate Implementation Pending Revision Process.  
62-213.415, F.A.C.: Trading of Emissions Within a Source.  
62-213.420, F.A.C.: Permit Applications.  
62-213.430, F.A.C.: Permit Issuance, Renewal, and Revision.  
62-213.440, F.A.C.: Permit Content.  
62-213.450, F.A.C.: Permit Review by EPA and Affected States  
62-213.460, F.A.C.: Permit Shield.

62-213.900, F.A.C.: Forms and Instructions.  
62-213.900(1), F.A.C.: Major Air Pollution Source Annual Emissions Fee Form.  
62-213.900(7), F.A.C.: Statement of Compliance Form

## **Title V Core List**

Effective: 03/01/02

### **CHAPTER 62-296, F.A.C.: STATIONARY SOURCES - EMISSION STANDARDS, effective 03-02-99**

62-296.320(2), F.A.C.: Objectionable Odor Prohibited.

62-296.320(4)(c), F.A.C.: Unconfined Emissions of Particulate Matter

### **CHAPTER 62-297, F.A.C.: STATIONARY SOURCES - EMISSIONS MONITORING, effective 03-02-99**

62-297.310, F.A.C.: General Test Requirements.

62-297.330, F.A.C.: Applicable Test Procedures.

62-297.340, F.A.C.: Frequency of Compliance Tests.

62-297.345, F.A.C.: Stack Sampling Facilities Provided by the Owner of an Emissions Unit.

62-297.350, F.A.C.: Determination of Process Variables.

62-297.570, F.A.C.: Test Report.

62-297.620, F.A.C.: Exceptions and Approval of Alternate Procedures and Requirements.

#### **Miscellaneous:**

**CHAPTER 28-106, F.A.C.: Decisions Determining Substantial Interests**

**CHAPTER 62-110, F.A.C.: Exception to the Uniform Rules of Procedure, effective 07-01-98**

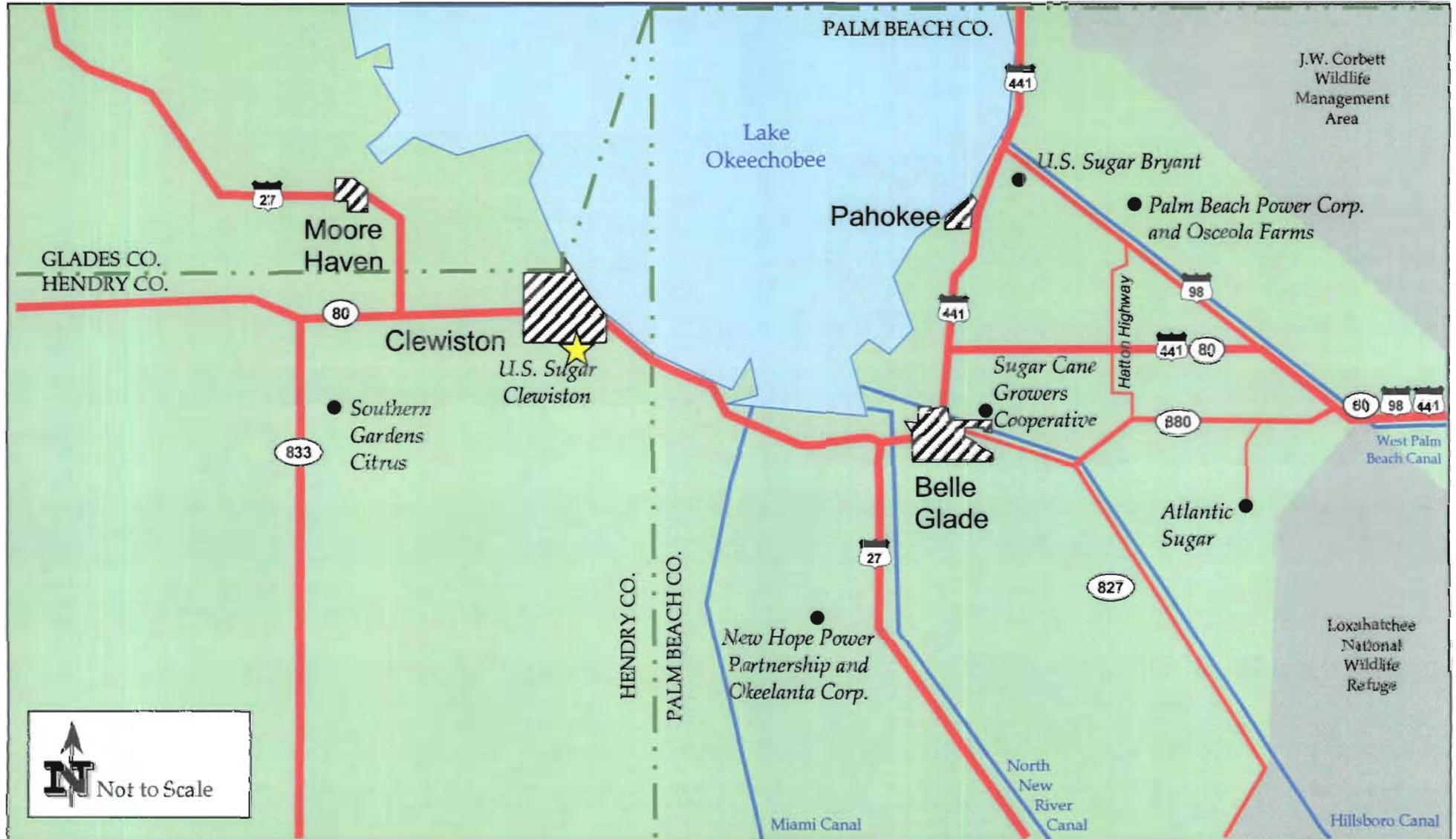
**CHAPTER 62-256, F.A.C.: Open Burning and Frost Protection Fires, effective 11-30-94**

**CHAPTER 62-257, F.A.C.: Asbestos Notification and Fee, effective 02-09-99**

**CHAPTER 62-281, F.A.C.: Motor Vehicle Air Conditioning Refrigerant Recovery and  
Recycling, effective 09-10-96**

**ATTACHMENT UC-FI-C1**

**AREA MAP SHOWING FACILITY LOCATION**



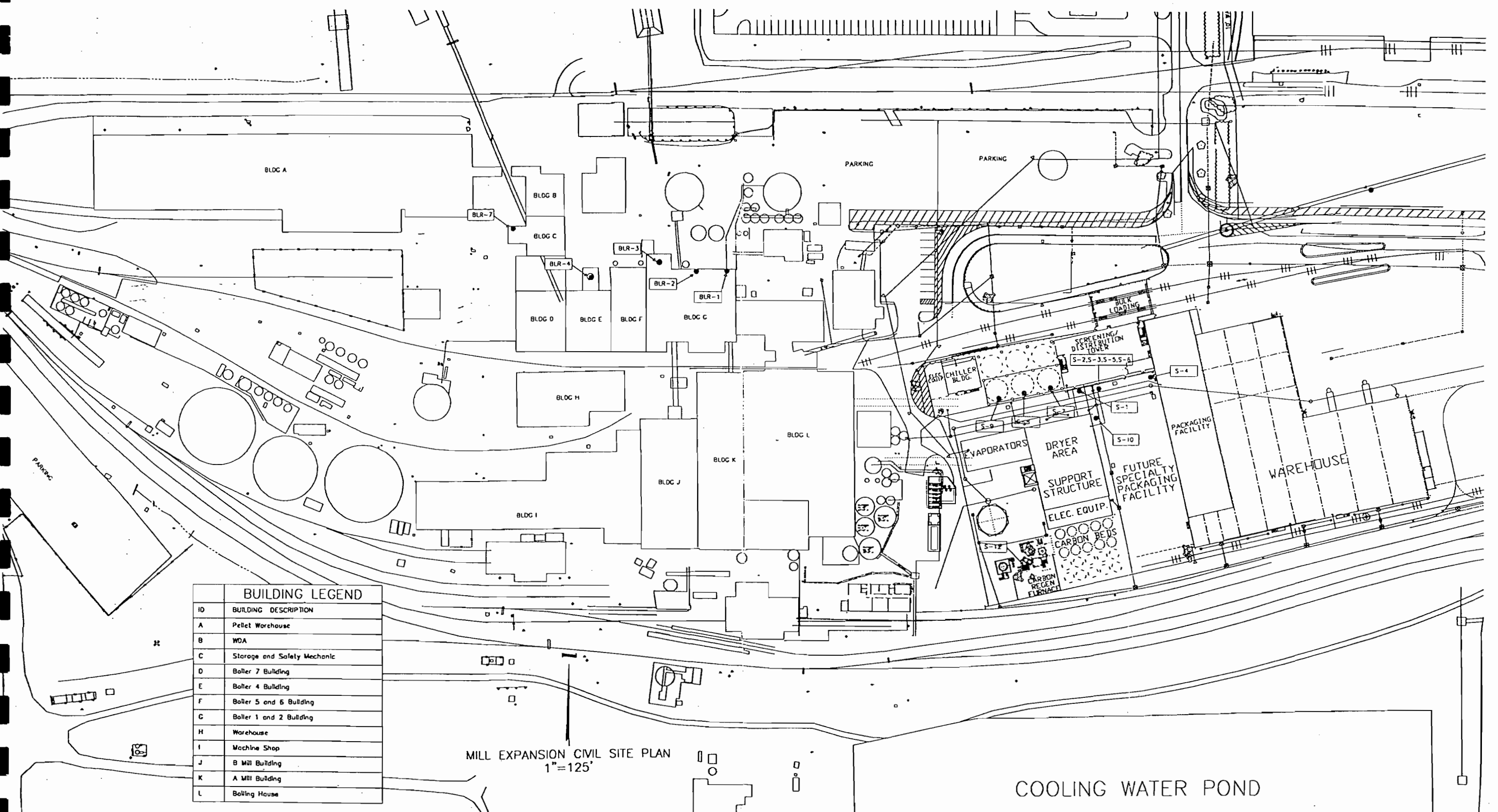
**Attachment UC-FI-C1**  
 Location of U.S. Sugar Corporation, Clewiston Mill

Source: Golder Associates Inc, 2002.



**ATTACHMENT UC-FI-C2**

**FACILITY PLOT PLANS**

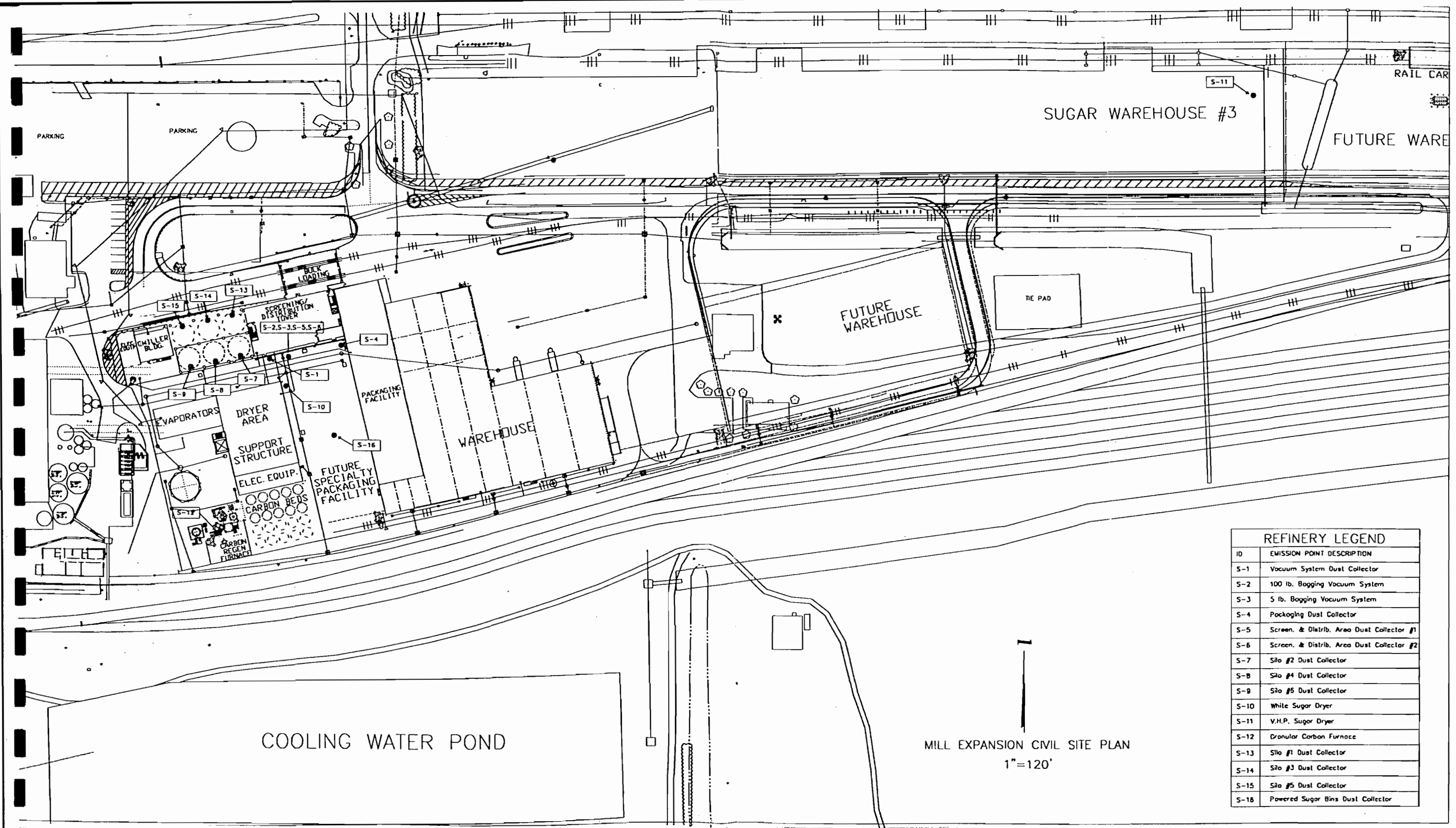


BUILDING LEGEND	
ID	BUILDING DESCRIPTION
A	Pellet Warehouse
B	WDA
C	Storage and Safety Mechanic
D	Boiler 7 Building
E	Boiler 4 Building
F	Boiler 5 and 6 Building
G	Boiler 1 and 2 Building
H	Warehouse
I	Machine Shop
J	B Mill Building
K	A Mill Building
L	Boiling House

MILL EXPANSION CIVIL SITE PLAN  
1"=125'

COOLING WATER POND





REFINERY LEGEND	
ID	EMISSION POINT DESCRIPTION
S-1	Vacuum System Dust Collector
S-2	100 lb. Baggging Vacuum System
S-3	5 lb. Baggging Vacuum System
S-4	Packaging Dust Collector
S-5	Screen. & Distrib. Area Dust Collector #1
S-6	Screen. & Distrib. Area Dust Collector #2
S-7	Silo #2 Dust Collector
S-8	Silo #4 Dust Collector
S-9	Silo #5 Dust Collector
S-10	White Sugar Dryer
S-11	V.H.P. Sugar Dryer
S-12	Granular Carbon Furnace
S-13	Silo #1 Dust Collector
S-14	Silo #3 Dust Collector
S-15	Silo #5 Dust Collector
S-16	Powered Sugar Bins Dust Collector

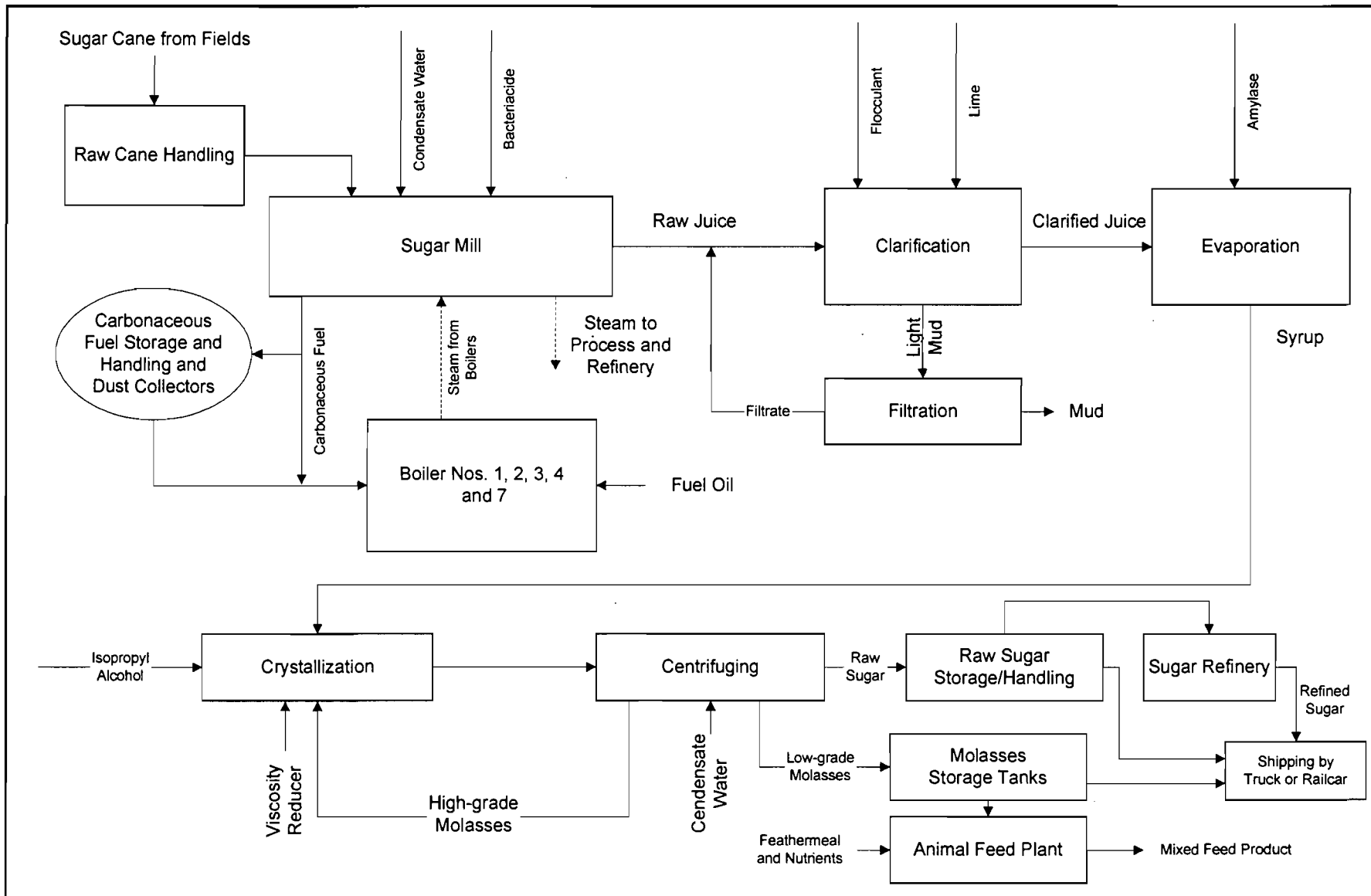
MILL EXPANSION CIVIL SITE PLAN  
1" = 120'



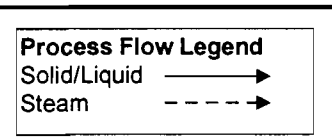
**ATTACHMENT UC-FI-C3**

**PROCESS FLOW DIAGRAM**





Attachment UC-FI-C3  
 Process Flow Diagram  
 U.S. Sugar Corporation  
 Clewiston Mill, Florida



Clewiston Sugar Mill Facility

Filename: 0237615\4\4.4\4.4.1\UC-FI-C3.VSD

Date: 12/17/02



**III. EMISSIONS UNIT INFORMATION**

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

**A. GENERAL EMISSIONS UNIT INFORMATION  
(All Emissions Units)**

**Emissions Unit Description and Status**

1. Type of Emissions Unit Addressed in This Section: (Check one) <input checked="" type="checkbox"/> 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). <input type="checkbox"/> 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. <input type="checkbox"/> 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. Regulated or Unregulated Emissions Unit? (Check one) <input checked="" type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit. <input type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.			
3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):  <p style="margin-left: 40px;"><b>Boiler No. 4</b></p>			
4. Emissions Unit Identification Number: <span style="float: right;">[ ] No ID</span> ID: <b>004</b> <span style="float: right;">[ ] ID Unknown</span>			
5. Emissions Unit Status Code: <b>A</b>	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code: <b>20</b>	8. Acid Rain Unit? [ ]
9. Emissions Unit Comment: (Limit to 500 Characters)  <p style="margin-left: 40px;"><b>Traveling grate boiler fired by carbonaceous fuel and fuel oil with a maximum sulfur content of 0.40% by weight.</b></p>			

**Emissions Unit Control Equipment**

1. Control Equipment/Method Description (Limit to 200 characters per device or method):

**Joy Turbulaire Impingement Scrubber, Size 200, Type D**

2. Control Device or Method Code(s): 001

**Emissions Unit Details**

1. Package Unit:	
Manufacturer:	Model Number:
2. Generator Nameplate Rating: MW	
3. Incinerator Information:	
Dwell Temperature:	°F
Dwell Time:	seconds
Incinerator Afterburner Temperature:	°F

**B. EMISSIONS UNIT CAPACITY INFORMATION  
(Regulated Emissions Units Only)**

**Emissions Unit Operating Capacity and Schedule**

1. Maximum Heat Input Rate:	<b>633</b>	mmBtu/hr
2. Maximum Incineration Rate:	lb/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:	<b>300,000</b>	lb/hr steam
5. Requested Maximum Operating Schedule:		
	<b>24</b>	hours/day
	<b>7</b>	days/week
	<b>52</b>	weeks/year
	<b>8,760</b>	hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):		
<p>Maximum heat input based on 1-hour maximum steam rate (above) for carbonaceous fuel.                  Maximum 24-hour average firing rate is 600 MMBtu/hr, producing 285,000 lb/hr steam.                  Annual heat input limited to <math>2.88 \times 10^{12}</math> Btu/yr. Proposed maximum heat input for fuel oil is 326.25 MMBtu/hr.</p>		

**C. EMISSIONS UNIT REGULATIONS  
(Regulated Emissions Units Only)**

**List of Applicable Regulations**

62.296.410(2)(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

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

**Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram? <b>BLR-4</b>		2. Emission Point Type Code: <b>1</b>	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:			
5. Discharge Type Code: <b>V</b>	6. Stack Height: <b>150</b> feet	7. Exit Diameter: <b>8.2</b> feet	
8. Exit Temperature: <b>150</b> °F	9. Actual Volumetric Flow Rate: <b>273,400</b> 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 Comment (limit to 200 characters):  <b>Volumetric flow rate based on recent stack test data, ratioed up to 285,000 lb/hr steam (maximum 24-hr average).</b>			

**E. SEGMENT (PROCESS/FUEL) INFORMATION  
(All Emissions Units)**

**Segment Description and Rate:** Segment 1 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters):  <b>External combustion boilers; Industrial; Bagasse; All boiler sizes</b>		
2. Source Classification Code (SCC): <b>1-02-011-01</b>	3. SCC Units: <b>Tons Burned</b>	
4. Maximum Hourly Rate: <b>87.92</b>	5. Maximum Annual Rate: <b>400,000</b>	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: <b>7.2</b>
10. Segment Comment (limit to 200 characters):  <b>Based on 633 MMBtu/hr and 3,600 Btu/lb wet bagasse. Annual rate is maximum allowable from permit No. 0510003-010-AC (PSD-FL-272A).</b>		

**Segment Description and Rate:** Segment 2 of 2

1. Segment Description (Process/Fuel Type) (limit to 500 characters):  <b>External combustion boilers; Industrial; Bagasse; Distillate Oil; Grades 1 and 2</b>		
2. Source Classification Code (SCC): <b>1-02-005-01</b>	3. SCC Units: <b>Thousand Gallons Burned</b>	
4. Maximum Hourly Rate: <b>2.417</b>	5. Maximum Annual Rate: <b>500</b>	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: <b>0.40</b>	8. Maximum % Ash:	9. Million Btu per SCC Unit: <b>135</b>
10. Segment Comment (limit to 200 characters):  <b>Maximum hourly and annual rates based on proposed 326.25 MMBtu/hr and a current limit of 500,000 gallons of fuel oil per year.</b>		

**F. EMISSIONS UNIT POLLUTANTS  
(All Emissions Units)**

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	001		EL
PM <sub>10</sub>	001		EL
SO <sub>2</sub>	001		EL
NO <sub>x</sub>			EL
CO			EL
VOC			EL
SAM			NS
PB	001		NS
H021	001		NS
H114			NS



**G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units -  
Emissions-Limited and Preconstruction Review Pollutants Only)**

**Potential/Fugitive Emissions**

1. Pollutant Emitted: <b>PM</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>95 lb/hour                      216 tons/year</b>		4. Synthetically Limited? <input checked="" type="checkbox"/>	
5. Range of Estimated Fugitive Emissions: [ ] 1            [ ] 2            [ ] 3            _____ to _____ tons/year			
6. Emission Factor: <b>0.15 lb/MMBtu</b> Reference: <b>Permit No. 0510003-014-AV</b>		7. Emissions Method Code: <b>0</b>	
8. Calculation of Emissions (limit to 600 characters):  <b>633 MMBtu/hr x 0.15 lb/MMBtu = 95 lb/hr</b> <b>Annual emissions based on heat input rate of 2,880,000 MMBtu during any consecutive 12 months.</b>			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):  <b>Maximum emissions representative of bagasse firing.</b>			

**Allowable Emissions** Allowable Emissions  1  of  2

1. Basis for Allowable Emissions Code: <b>OTHER</b>		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: <b>0.15 lb/MMBtu</b>		4. Equivalent Allowable Emissions: <b>95 lb/hour                      216 tons/year</b>	
5. Method of Compliance (limit to 60 characters):  <b>EPA Method 5 or 17</b>			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):  <b>Permit No. 0510003-014-AV. Emissions representative of bagasse firing only.</b>			

**G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units -  
Emissions-Limited and Preconstruction Review Pollutants Only)**

**Potential/Fugitive Emissions**

1. Pollutant Emitted: <b>PM</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: lb/hour		tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year			
6. Emission Factor: Reference:		7. Emissions Method Code:	
8. Calculation of Emissions (limit to 600 characters):			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):			

**Allowable Emissions** Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: <b>OTHER</b>		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: <b>0.1 lb/MMBtu</b>		4. Equivalent Allowable Emissions: <b>32.5 lb/hour      3.4 tons/year</b>	
5. Method of Compliance (limit to 60 characters): <b>EPA Method 5 or 17</b>			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): <b>Rule 62-296.406, F.A.C. Emissions representative of fuel oil firing. Annual emissions based on 500,000 gallons per any consecutive 12 mos.</b>			

**G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units -  
Emissions-Limited and Preconstruction Review Pollutants Only)**

**Potential/Fugitive Emissions**

1. Pollutant Emitted: <b>PM<sub>10</sub></b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>95 lb/hour                      216 tons/year</b>		4. Synthetically Limited? <input checked="" type="checkbox"/>	
5. Range of Estimated Fugitive Emissions: [ ] 1            [ ] 2            [ ] 3            _____ to _____ tons/year			
6. Emission Factor: <b>0.15 lb/MMBtu</b> Reference: <b>Permit No. 0510003-010-AV</b>		7. Emissions Method Code: <b>0</b>	
8. Calculation of Emissions (limit to 600 characters):  <b>633 MMBtu/hr x 0.15 lb/MMBtu = 95 lb/hr</b> <b>Annual emissions based on heat input rate of 2,880,000 MMBtu during any consecutive 12 months.</b>			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):  <b>Maximum emissions representative of bagasse firing.</b>			

**Allowable Emissions** Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: <b>OTHER</b>		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: <b>0.15 lb/MMBtu</b>		4. Equivalent Allowable Emissions: <b>95 lb/hour                      216 tons/year</b>	
5. Method of Compliance (limit to 60 characters):  <b>EPA Method 5 or 17</b>			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):  <b>Permit No. 0510003-014-AV. Emissions representative of bagasse firing only.</b>			

**G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units -  
Emissions-Limited and Preconstruction Review Pollutants Only)**

**Potential/Fugitive Emissions**

1. Pollutant Emitted: <b>PM<sub>10</sub></b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: lb/hour _____ tons/year _____		4. Synthetically Limited? [ ]	
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year			
6. Emission Factor: Reference:		7. Emissions Method Code:	
8. Calculation of Emissions (limit to 600 characters):			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):			

**Allowable Emissions** Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: <b>OTHER</b>		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: <b>0.1 lb/MMBtu</b>		4. Equivalent Allowable Emissions: <b>32.5 lb/hour      3.4 tons/year</b>	
5. Method of Compliance (limit to 60 characters): <b>EPA Method 5 or 17</b>			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): <b>Rule 62-296.406, F.A.C. Emissions representative of fuel oil firing. Annual emissions based on 500,000 gallons per any consecutive 12 mos.</b>			

**G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units -  
Emissions-Limited and Preconstruction Review Pollutants Only)**

**Potential/Fugitive Emissions**

1. Pollutant Emitted: <b>SO<sub>2</sub></b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>155.7 lb/hour</b>		4. Synthetically Limited? <input checked="" type="checkbox"/> [ X ]	
		<b>98.6 tons/year</b>	
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year			
6. Emission Factor: <b>0.06 lb/MMBtu and 0.4% S Oil</b> Reference: <b>Permit No. 0510003-014-AV</b>		7. Emissions Method Code: <b>0</b>	
8. Calculation of Emissions (limit to 600 characters):  <b>Fuel Oil: 326.25 MMBtu/hr x 0.42 lb/MMBtu = 137.3 lb/hr</b> <b>Bagasse: [(633 - 326.25) MMBtu/hr x 0.06 lb/MMBtu] = 18.4 lb/hr</b> <b>Total Hourly: 137.3 lb/hr + 18.4 lb/hr = 155.7 lb/hr</b> <b>Annual: 14.2 tons/yr + [(2,880,000 - 67,500) MMBtu/yr x 0.06 lb/MMBtu ÷ 2,000 lb/ton] = 98.6 tons/yr</b>			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):  <b>Factor based on carbonaceous fuel firing. Fuel oil based on 0.4% sulfur oil. Emissions based on combined fuel oil and carbonaceous fuel firing.</b>			

**Allowable Emissions** Allowable Emissions 1 of 3

1. Basis for Allowable Emissions Code: <b>OTHER</b>		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: <b>0.06 lb/MMBtu</b>		4. Equivalent Allowable Emissions: <b>38.0 lb/hour</b> <b>86.4 tons/year</b>	
5. Method of Compliance (limit to 60 characters):  <b>EPA Methods 6, 6c, or 8.</b>			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):  <b>Permit No. 0510003-014-AV. Based on carbonaceous fuel and maximum heat input of 2,880,000 MMBtu during any consecutive 12 months.</b>			

**G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units -  
Emissions-Limited and Preconstruction Review Pollutants Only)**

**Potential/Fugitive Emissions**

1. Pollutant Emitted: <b>SO<sub>2</sub></b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: lb/hour		tons/year	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year			
6. Emission Factor: Reference:		7. Emissions Method Code:	
8. Calculation of Emissions (limit to 600 characters):			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):			

**Allowable Emissions** Allowable Emissions 2 of 3

1. Basis for Allowable Emissions Code: <b>OTHER</b>		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: <b>0.40% sulfur oil</b>		4. Equivalent Allowable Emissions: <b>137.3 lb/hour      14.2 tons/year</b>	
5. Method of Compliance (limit to 60 characters): <b>Fuel oil analysis.</b>			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): <b>Requested limit. Emissions representative of fuel oil firing. Annual emissions based on 500,000 gallons per any consecutive 12 mos. See Attachment UC-EU1-G8 for calculations.</b>			

**G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units -  
Emissions-Limited and Preconstruction Review Pollutants Only)**

**Potential/Fugitive Emissions**

1. Pollutant Emitted: <b>SO<sub>2</sub></b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: lb/hour		4. Synthetically Limited? [ ]	
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year			
6. Emission Factor: Reference:		7. Emissions Method Code:	
8. Calculation of Emissions (limit to 600 characters):			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):			

**Allowable Emissions** Allowable Emissions 3 of 3

1. Basis for Allowable Emissions Code: <b>OTHER</b>		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: <b>155.2 lb/hr</b>		4. Equivalent Allowable Emissions: <b>155.7 lb/hour 98.6 tons/year</b>	
5. Method of Compliance (limit to 60 characters): <b>EPA Methods 6, 6c, or 8</b>			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): <b>Based on maximum fuel oil firing with remainder due to bagasse.</b>			

**G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units -  
Emissions-Limited and Preconstruction Review Pollutants Only)**

**Potential/Fugitive Emissions**

1. Pollutant Emitted: <b>NO<sub>x</sub></b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>126.6 lb/hour                      288.0 tons/year</b>		4. Synthetically Limited? <input checked="" type="checkbox"/>	
5. Range of Estimated Fugitive Emissions: [ ] 1            [ ] 2            [ ] 3            _____ to _____ tons/year			
6. Emission Factor: <b>0.20 lb/MMBtu</b> Reference: <b>Permit No. 0510003-014-AV</b>		7. Emissions Method Code: <b>0</b>	
8. Calculation of Emissions (limit to 600 characters):  <b>0.20 lb/MMBtu x 633 MMBtu/hr = 126.6 lb/hr</b> <b>0.20 lb/MMBtu x 2,880,000 MMBtu/yr ÷ 2,000 lb/ton = 288.0 tons/yr</b>			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):  <b>Emissions representative of bagasse firing only. See Attachment UC-EU1-G8 for potential emissions due to fuel oil firing.</b>			

**Allowable Emissions** Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: <b>OTHER</b>		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: <b>0.20 lb/MMBtu</b>		4. Equivalent Allowable Emissions: <b>126.6 lb/hour                      288.0 tons/year</b>	
5. Method of Compliance (limit to 60 characters):  <b>EPA Methods 7 or 7E</b>			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):  <b>Permit No. 0510003-014-AV. Based on carbonaceous fuel firing and maximum heat input of 2,880,000 MMBtu during any consecutive 12 months.</b>			



**G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units -  
Emissions-Limited and Preconstruction Review Pollutants Only)**

**Potential/Fugitive Emissions**

1. Pollutant Emitted: <b>CO</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>4,114.5 lb/hour</b>		4. Synthetically Limited? <input checked="" type="checkbox"/> [ X ]	
		<b>9,360.0 tons/year</b>	
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year			
6. Emission Factor: <b>6.5 lb/MMBtu</b> Reference: <b>Permit No. 0510003-014-AV</b>		7. Emissions Method Code: <b>0</b>	
8. Calculation of Emissions (limit to 600 characters):  <b>6.5 lb/MMBtu x 633 MMBtu/hr = 4,114.5 lb/hr</b> <b>6.5 lb/MMBtu x 2,880,000 MMBtu/yr ÷ 2,000 lb/ton = 9,360.0 tons/yr</b>			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):  <b>Emissions representative of bagasse firing only. See Attachment UC-EU1-G8 for potential emissions due to fuel oil firing.</b>			

**Allowable Emissions** Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: <b>OTHER</b>		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: <b>6.5 lb/MMBtu</b>		4. Equivalent Allowable Emissions: <b>4,114.5 lb/hour 9,360.0 tons/year</b>	
5. Method of Compliance (limit to 60 characters):  <b>EPA Method 10</b>			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):  <b>Permit No. 0510003-014-AC. Annual emissions based on total heat input of 2,880,000 MMBtu during any consecutive 12 months. Hourly emissions based on 633 MMBtu/hr.</b>			

**G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
**(Regulated Emissions Units -**  
**Emissions-Limited and Preconstruction Review Pollutants Only)**

**Potential/Fugitive Emissions**

1. Pollutant Emitted: <b>VOC</b>	2. Total Percent Efficiency of Control:
3. Potential Emissions: <b>316.5 lb/hour                      720.0 tons/year</b>	4. Synthetically Limited? <input checked="" type="checkbox"/>
5. Range of Estimated Fugitive Emissions: [ ] 1            [ ] 2            [ ] 3            _____ to _____ tons/year	
6. Emission Factor: <b>0.50 lb/MMBtu</b> Reference: <b>Permit No. 0510003-014-AV</b>	7. Emissions Method Code: <b>0</b>
8. Calculation of Emissions (limit to 600 characters):  <b>0.50 lb/MMBtu x 633 MMBtu/hr = 316.5 lb/hr</b> <b>0.50 lb/MMBtu x 2,880,000 MMBtu/yr ÷ 2,000 lb/ton = 720.0 tons/yr</b>	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):  <b>Emissions representative of bagasse firing only. See Attachment UC-EU1-G8 for potential emissions due to fuel oil firing.</b>	

**Allowable Emissions** Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: <b>OTHER</b>	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: <b>0.50 lb/MMBtu</b>	4. Equivalent Allowable Emissions: <b>316.5 lb/hour                      720.0 tons/year</b>
5. Method of Compliance (limit to 60 characters):  <b>EPA Method 18 and 25A</b>	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):  <b>Permit No. 0510003-014-AV. Annual emissions based on total heat input of 2,880,000 MMBtu during any consecutive 12 months. Hourly emissions based on 633 MMBtu/hr.</b>	

**G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
**(Regulated Emissions Units -**  
**Emissions-Limited and Preconstruction Review Pollutants Only)**

**Potential/Fugitive Emissions**

1. Pollutant Emitted: <b>SAM</b>	2. Total Percent Efficiency of Control:
3. Potential Emissions: <b>9.5 lb/hour                      6.0 tons/year</b>	4. Synthetically Limited? [ ]
5. Range of Estimated Fugitive Emissions: [ ] 1            [ ] 2            [ ] 3            _____ to _____ tons/year	
6. Emission Factor: <b>See Comment</b> Reference: <b>AP-42, Section 1.3</b>	7. Emissions Method Code: <b>3</b>
8. Calculation of Emissions (limit to 600 characters):  $155.7 \text{ lb/hr SO}_2 \times 0.05 \times (98/80) = 9.5 \text{ lb/hr}$ $98.6 \text{ ton/yr SO}_2 \times 0.05 \times (98/80) = 6.0 \text{ ton/yr}$	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):  <b>Assumes SO<sub>3</sub> is 5% of SO<sub>2</sub>; converted to SAM by multiplying by (98/80). See Attachment UC-EU1-G8 for potential emissions due to fuel oil firing.</b>	

**Allowable Emissions** Allowable Emissions \_\_\_\_\_ of \_\_\_\_\_

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions:  <div style="display: flex; justify-content: space-around;"> <span>lb/hour</span> <span>tons/year</span> </div>
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

**G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION**  
**(Regulated Emissions Units - Emissions-Limited and Preconstruction Review Pollutants Only)**

**Potential/Fugitive Emissions**

1. Pollutant Emitted: <b>PB</b>		2. Total Percent Efficiency of Control: <b>99%</b>	
3. Potential Emissions: <b>3.0 x 10<sup>-4</sup> lb/hour</b>		4. Synthetically Limited? [ ]	
		<b>6.9 x 10<sup>-4</sup> tons/year</b>	
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year			
6. Emission Factor: <b>4.8 x 10<sup>-5</sup> lb/MMBtu</b>		7. Emissions Method Code: <b>3</b>	
Reference: <b>AP-42, Table 1.6-4 (3/02)</b>			
8. Calculation of Emissions (limit to 600 characters):  $4.8 \times 10^{-5} \text{ lb/MMBtu} \times 633 \text{ MMBtu/hr} \times (1-0.99) = 3.0 \times 10^{-4} \text{ lb/hr}$ $4.8 \times 10^{-5} \text{ lb/MMBtu} \times 2,880,000 \text{ MMBtu/yr} \times (1-0.99) \div 2,000 \text{ lb/ton} = 6.9 \times 10^{-4} \text{ ton/yr}$			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):  <b>Emissions representative of bagasse firing only. See Attachment UC-EU1-G8 for potential emissions due to fuel oil firing.</b>			

**Allowable Emissions** Allowable Emissions \_\_\_\_\_ of \_\_\_\_\_

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

**G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units -  
Emissions-Limited and Preconstruction Review Pollutants Only)**

**Potential/Fugitive Emissions**

1. Pollutant Emitted: <b>H021</b>		2. Total Percent Efficiency of Control: <b>99%</b>	
3. Potential Emissions: <b>7.0 x 10<sup>-6</sup> lb/hour</b>		4. Synthetically Limited? [ ]	
		<b>1.6 x 10<sup>-5</sup> tons/year</b>	
5. Range of Estimated Fugitive Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/year			
6. Emission Factor: <b>1.1 x 10<sup>-6</sup> lb/MMBtu</b>		7. Emissions Method Code: <b>3</b>	
Reference: <b>AP-42, Table 1.6-4 (3/02)</b>			
8. Calculation of Emissions (limit to 600 characters):  $1.1 \times 10^{-6} \text{ lb/MMBtu} \times 633 \text{ MMBtu/hr} \times (1-0.99) = 7.0 \times 10^{-6} \text{ lb/hr}$ $1.1 \times 10^{-6} \text{ lb/MMBtu} \times 2,880,000 \text{ MMBtu/yr} \times (1-0.99) \div 2,000 \text{ lb/ton} = 1.6 \times 10^{-5} \text{ ton/yr}$			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):  <b>Emissions representative of bagasse firing only. See Attachment UC-EU1-G8 for potential emissions due to fuel oil firing.</b>			

**Allowable Emissions** Allowable Emissions \_\_\_\_\_ of \_\_\_\_\_

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

**G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units -  
Emissions-Limited and Preconstruction Review Pollutants Only)**

**Potential/Fugitive Emissions**

1. Pollutant Emitted: <b>H114</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>5.03 x 10<sup>-3</sup> lb/hour      1.14 x 10<sup>-2</sup> tons/year</b>		4. Synthetically Limited? [ ]	
5. Range of Estimated Fugitive Emissions: [ ] 1      [ ] 2      [ ] 3      _____ to _____ tons/year			
6. Emission Factor: <b>7.95 x 10<sup>-6</sup> lb/MMBtu</b> Reference: <b>Based on industry stack testing (Cooper, 1999)</b>		7. Emissions Method Code: <b>5</b>	
8. Calculation of Emissions (limit to 600 characters):  $7.95 \times 10^{-6} \text{ lb/MMBtu} \times 633 \text{ MMBtu/hr} = 5.03 \times 10^{-3} \text{ lb/hr}$ $7.95 \times 10^{-6} \text{ lb/MMBtu} \times 2,880,000 \text{ MMBtu/yr} \div 2,000 \text{ lb/ton} = 1.14 \times 10^{-2} \text{ ton/yr}$			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):  <b>Emissions representative of bagasse firing only. See Attachment UC-EU1-G8 for potential emissions due to fuel oil firing.</b>			

**Allowable Emissions** Allowable Emissions \_\_\_\_\_ of \_\_\_\_\_

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

**H. VISIBLE EMISSIONS INFORMATION**  
**(Only Regulated Emissions Units Subject to a VE Limitation)**

**Visible Emissions Limitation:** Visible Emissions Limitation  1  of  1

1. Visible Emissions Subtype: <b>VE20</b>	2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input checked="checked" type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions: <b> 20 </b> %    Exceptional Conditions: <b> 40 </b> % Maximum Period of Excess Opacity Allowed: <b> 2 </b> min/hour	
4. Method of Compliance: <b>DEP Method 9</b>	
5. Visible Emissions Comment (limit to 200 characters):  <b>Permit No. 0510003-014-AV.</b>	

**I. CONTINUOUS MONITOR INFORMATION**  
**(Only Regulated Emissions Units Subject to Continuous Monitoring)**

**Continuous Monitoring System:** Continuous Monitor  1  of  9

1. Parameter Code: <b>PRS</b>	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input checked="checked" type="checkbox"/> Other
4. Monitor Information: Manufacturer: <b>Custom Design</b> Model Number:    Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):  <b>Monitors pressure drop across wet scrubber. Monitored to insure proper operation of scrubber.</b>	

**H. VISIBLE EMISSIONS INFORMATION**  
**(Only Regulated Emissions Units Subject to a VE Limitation)**

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

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

**I. CONTINUOUS MONITOR INFORMATION**  
**(Only Regulated Emissions Units Subject to Continuous Monitoring)**

**Continuous Monitoring System:** Continuous Monitor  2  of  9

1. Parameter Code: <b>FLOW</b>	2. Pollutant(s):
3. CMS Requirement:	[ X ] Rule [ ] Other
4. Monitor Information: Manufacturer: <b>ITT Barton or equivalent</b> Model Number: <b>Flowco F500</b> Serial Number: <b>see comment</b>	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):  <b>Permit No. 0510003-014-AV. Monitors fuel oil flow to Boiler No. 4. No serial # or installation date provided because monitors are routinely replaced to insure optimum performance.</b>	



**H. VISIBLE EMISSIONS INFORMATION**  
 (Only Regulated Emissions Units Subject to a VE Limitation)

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

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

**I. CONTINUOUS MONITOR INFORMATION**  
 (Only Regulated Emissions Units Subject to Continuous Monitoring)

**Continuous Monitoring System:** Continuous Monitor 3 of 9

1. Parameter Code: <b>Nozzle Pressure</b>	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ <b>X</b> ] Other
4. Monitor Information: Manufacturer: <b>ABB-Kent Taylor or equivalent</b> Model Number: <b>621G</b> Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):  <b>Monitors wet scrubber spray nozzle pressure.</b>	

**H. VISIBLE EMISSIONS INFORMATION**  
 (Only Regulated Emissions Units Subject to a VE Limitation)

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

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

**I. CONTINUOUS MONITOR INFORMATION**  
 (Only Regulated Emissions Units Subject to Continuous Monitoring)

**Continuous Monitoring System:** Continuous Monitor 4 of 9

1. Parameter Code: <b>FLOW</b>	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ <input checked="" type="checkbox"/> ] Other
4. Monitor Information: Manufacturer: <b>Rosemount Inc. or equivalent</b> Model Number: <b>8711/8712</b> Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):  <b>Monitors wet scrubber liquid flow rate.</b>	

**H. VISIBLE EMISSIONS INFORMATION**  
 (Only Regulated Emissions Units Subject to a VE Limitation)

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

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

**I. CONTINUOUS MONITOR INFORMATION**  
 (Only Regulated Emissions Units Subject to Continuous Monitoring)

**Continuous Monitoring System:** Continuous Monitor  5  of  9

1. Parameter Code: <b>O<sub>2</sub></b>	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ <b>X</b> ] Other
4. Monitor Information: Manufacturer: <b>Rosemount Analytical Inc. or equivalent</b> Model Number: <b>3000</b> Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):  <b>Monitors flue gas oxygen content.</b>	

**H. VISIBLE EMISSIONS INFORMATION**  
 (Only Regulated Emissions Units Subject to a VE Limitation)

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

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

**I. CONTINUOUS MONITOR INFORMATION**  
 (Only Regulated Emissions Units Subject to Continuous Monitoring)

**Continuous Monitoring System:** Continuous Monitor 6 of 9

1. Parameter Code: <b>CO</b>	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ <b>X</b> ] Other
4. Monitor Information: Manufacturer: <b>Thermo Environmental Instruments Inc. or equivalent</b> Model Number: <b>48C</b> Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):  <b>Monitors flue gas carbon monoxide content.</b>	

**H. VISIBLE EMISSIONS INFORMATION**  
 (Only Regulated Emissions Units Subject to a VE Limitation)

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

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

**I. CONTINUOUS MONITOR INFORMATION**  
 (Only Regulated Emissions Units Subject to Continuous Monitoring)

**Continuous Monitoring System:** Continuous Monitor 7 of 9

1. Parameter Code: <b>Steam Temp</b>	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ X ] Other
4. Monitor Information: Manufacturer: <b>Preferred Instruments or equivalent</b> Model Number: <b>PCC-III Controller</b> Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):  <b>Monitors steam temperature.</b>	

**H. VISIBLE EMISSIONS INFORMATION**  
 (Only Regulated Emissions Units Subject to a VE Limitation)

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

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

**I. CONTINUOUS MONITOR INFORMATION**  
 (Only Regulated Emissions Units Subject to Continuous Monitoring)

**Continuous Monitoring System:** Continuous Monitor 8 of 9

1. Parameter Code: <b>Steam Pressure</b>	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ <input checked="" type="checkbox"/> ] Other
4. Monitor Information: Manufacturer: <b>ABB-Kent Taylor or equivalent</b> Model Number: <b>621G</b> Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):  <b>Monitors steam pressure.</b>	

**H. VISIBLE EMISSIONS INFORMATION**  
 (Only Regulated Emissions Units Subject to a VE Limitation)

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

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

**I. CONTINUOUS MONITOR INFORMATION**  
 (Only Regulated Emissions Units Subject to Continuous Monitoring)

**Continuous Monitoring System:** Continuous Monitor  9  of  9

1. Parameter Code: <b>FLOW</b>	2. Pollutant(s):
3. CMS Requirement:	[ ] Rule [ <input checked="" type="checkbox"/> ] Other
4. Monitor Information: Manufacturer: <b>ABB-Kent Taylor or equivalent</b> Model Number: <b>621D</b> Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):  <b>Monitors steam flow rate.</b>	

**J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION  
(Regulated Emissions Units Only)**

**Supplemental Requirements**

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: <u>UC-EU1-J1</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification <input checked="" type="checkbox"/> Attached, Document ID: <u>UC-EU1-J2</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment <input checked="" type="checkbox"/> Attached, Document ID: <u>UC-EU1-J3</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
5. Compliance Test Report <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously submitted, Date: _____ <input checked="" type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
8. Supplemental Information for Construction Permit Application <input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment A</u> <input type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Supplemental Requirements Comment:



**Additional Supplemental Requirements for Title V Air Operation Permit Applications**

11. Alternative Methods of Operation [ ] Attached, Document ID: _____ [ X ] Not Applicable
12. Alternative Modes of Operation (Emissions Trading) [ ] Attached, Document ID: _____ [ X ] Not Applicable
13. Identification of Additional Applicable Requirements [ ] Attached, Document ID: _____ [ X ] Not Applicable
14. Compliance Assurance Monitoring Plan [ ] Attached, Document ID: _____ [ X ] Not Applicable
15. Acid Rain Part Application (Hard-copy Required) [ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ [ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ [ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ [ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ [ ] Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) Attached, Document ID: _____ [ ] Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) Attached, Document ID: _____ [ X ] Not Applicable

**ATTACHMENT UC-EU1-G8**

**EMISSIONS**

Attachment UC-EU1-G8. Future Maximum Emissions due to Fuel Oil Firing, Boiler No. 4, 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 <sup>a</sup> MMBtu/hr	Annual <sup>b</sup> MMBtu/yr		
Particulate Matter (PM)	0.015	1	326.25	67,500	4.8	0.5
Particulate Matter (PM <sub>10</sub> )	0.007	2	326.25	67,500	2.4	0.3
Sulfur dioxide (SO <sub>2</sub> )	0.42	1	326.25	67,500	137.3	14.2
Nitrogen oxides (NO <sub>x</sub> )	0.18	1	326.25	67,500	58.0	6.0
Carbon monoxide (CO)	0.037	1	326.25	67,500	12.1	1.3
Volatile Organic Compounds (VOC)	1.5E-03	1	326.25	67,500	0.5	0.05
Lead (Pb)	9.0E-06	3	326.25	67,500	2.9E-05	3.0E-06
Sulfuric acid mist (SAM)	0.02	1	326.25	67,500	6.2	0.6
Beryllium (Be)	3.0E-06	3	326.25	67,500	9.8E-06	1.0E-06
Mercury (Hg)	3.0E-06	3	326.25	67,500	9.8E-04	1.0E-04

References:

- 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<sub>3</sub>. Convert to H<sub>2</sub>SO<sub>4</sub> by multiplying by 98/80. Factors were converted to lb/MMBtu by dividing by 135,000 Btu/gal.  

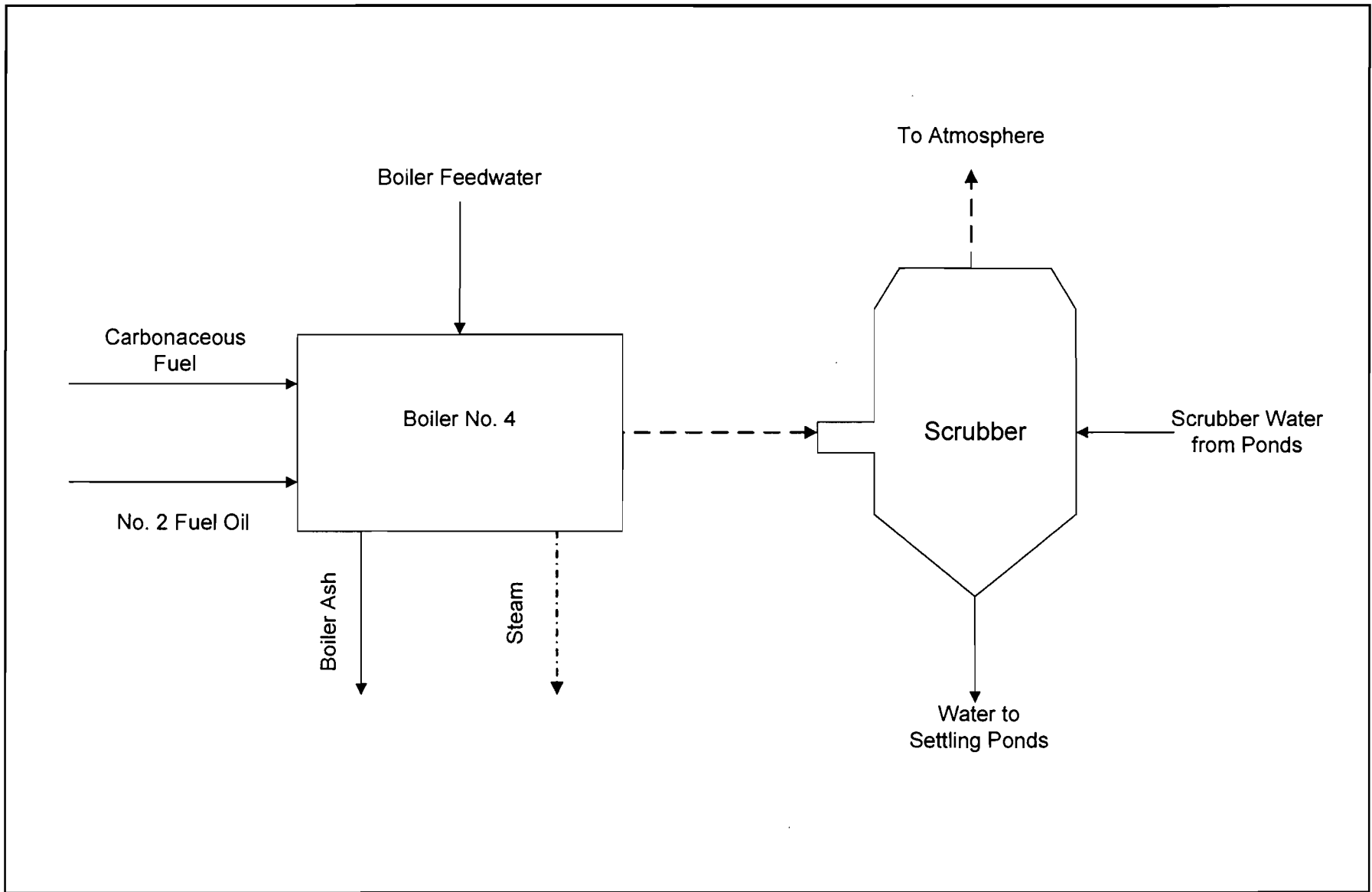
PM = 2 lb/1000 gal	NO <sub>x</sub> = 24 lb/1000 gal
SO <sub>2</sub> = 142S lb/1000 gal, where S = 0.4	CO = 5 lb/1000 gal
SO <sub>3</sub> = 5.7S lb/1000 gal, where S = 0.4	VOC = 0.2 lb/1000 gal
- Factors for distillate fuel oil, PM<sub>10</sub> is 50% of PM based on AP-42, Table 1.3-6 (9/98).
- Factors for No. 2 fuel oil combustion, AP-42 Table 1.3-10 (9/98). Assumes a 99% removal efficiency for lead and beryllium due to scrubber control.

Footnotes:

- <sup>a</sup> Based on proposed maximum heat input due to No. 2 fuel oil combustion, calculated as follows:  
 $225,000 \text{ lb/hr steam} \times 1,160 \text{ Btu/lb steam} / 0.80 / 1\text{E}+06 = 326.25 \text{ MMBtu/hr}$
- <sup>b</sup> Based on No. 2 fuel oil usage of 500,000 gallons per year and heating value of 135,000 Btu/gal.

**ATTACHMENT UC-EU1-J1**

**PROCESS FLOW DIAGRAM**



Attachment UC-EU1-J1  
 Process Flow Diagram  
 U.S. Sugar Corporation  
 Clewiston Mill, Florida

Boiler No. 4  
 Project Number: 013759444.44.4.1  
 Filename: UC-EU1-J1.VSD  
 Date: 12/18/02



**ATTACHMENT UC-EU1-J2**

**FUEL ANALYSIS**

ATTACHMENT UC-EU1-J2

BOILER NO. 4 FUEL ANALYSIS

Parameter	Fuel	
	Carbonaceous Fuel <sup>a</sup>	No. 2 Fuel Oil (0.4% S max)
Density (lb/gal)	--	6.83 <sup>c</sup>
Approximate Heating Value (Btu/lb)	3,600 <sup>b</sup>	19,910 <sup>c</sup>
Approximate Heating Value (Btu/gal)	--	135,000 <sup>c</sup>
<u>Ultimate Analysis (dry basis):</u>		
Carbon	48.48%	84.7% <sup>d</sup>
Hydrogen	6.01%	15.3% <sup>d</sup>
Nitrogen	0.33%	0.18% <sup>d</sup>
Oxygen	43.65%	0.38% <sup>d</sup>
Sulfur	0.01% - 0.40%	0.40% <sup>e</sup>
Ash/Inorganic	0.2% - 8.6%	0.06% <sup>c</sup>
Moisture	50% - 55%	0.51% <sup>c</sup>

Footnotes:

<sup>a</sup> Source: sugar industry fuel analysis averages.

<sup>b</sup> Wet basis for bagasse.

<sup>c</sup> Source: Perry's Chemical Engineer's Handbook. Sixth Edition, 1984. Represents average fuel characteristics.

<sup>d</sup> Source: fuel analysis from Coastal Fuels Marketing, Inc. (9/21/00).

<sup>e</sup> Proposed maximum.

**ATTACHMENT UC-EU1-J3**

**DETAILED DESCRIPTION OF CONTROL EQUIPMENT**



## ATTACHMENT UC-EU1-J3

U.S. SUGAR CORPORATION  
BOILER NO. 4 SCRUBBER EQUIPMENT DESIGN PARAMETERS

Scrubber Type	Impingement Scrubber
Scrubber Model	Joy Turbulaire
Scrubbant	Water
Packing Material	Type D, Size 200
Outlet Gas Temp (°F)	160
Outlet Gas Flow Rate (acfm)	273,400
Differential Pressure Drop (inches of water)	8 - 11
Scrubbant Flow Rate (gpm)	250 - 500
Scrubbant Pressure (psi)	50

**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. 0510003-014-AV. The location of the facility in relation to the surrounding area is shown in Attachment UC-FI-C1. U.S. Sugar harvests sugar cane and transports it to the Clewiston Mill, where the cane is processed into raw sugar in the mill. U.S. Sugar ships some of the raw sugar to customers, while the remaining raw sugar is refined into white sugar in the on-site refinery.

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 No. 4 is currently permitted to burn bagasse and No. 6 fuel oil with a maximum sulfur content of 0.7 percent sulfur. U. S. Sugar is proposing to increase Boiler No. 4's maximum fuel oil firing rate from 1,500 gallons per hour (gal/hr) to 2,416.7 gal/hr. This is equivalent to an increase in heat input due to fuel oil from 225 million British thermal units per hour (MMBtu/hr) to 326.25 MMBtu/hr, and an increase in steaming rate due to fuel oil firing from approximately 150,000 pounds per hour (lb/hr) steam to approximately 225,000 lb/hr steam.

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 also proposing to burn distillate fuel oil with a maximum sulfur content of 0.4 percent, instead of the currently permitted No. 6 fuel oil with a maximum sulfur content of 0.7 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 No. 4 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 No. 4 is 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 additional oil firing in Boiler No. 4 would be 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

U. S. Sugar is proposing to increase the maximum fuel oil firing rate for Boiler No. 4. The current maximum fuel oil firing rate is 1,500 gal/hr. This will be increased to 2,416.7 gal/hr by increasing the heat input from fuel oil from 225 MMBtu/hr to 326.25 MMBtu/hr. U.S. Sugar is also proposing to burn distillate fuel oil with a maximum of 0.4 percent sulfur. The increased heat input rate due to fuel oil firing is derived as follows, based on producing 225,000 lb/hr steam when firing fuel oil only:

$$225,000 \text{ lb/hr steam} \times 1,160 \text{ Btu/lb steam} / 0.80 / 1\text{E}+06 = 326.25 \text{ MMBtu/hr}$$

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

The increased steam generation from fuel oil will primarily be utilized during the crop season in the event of interrupted bagasse supply. Boiler No. 4 is used only as a backup when it is operated during the off-crop season. Boiler Nos. 1 through 4 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 four 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. With the increase in fuel oil firing, Boiler No. 4 can continue to provide sufficient steam to the mill and the refinery without significant interruption and minimal lost production time.

Interruption of steam supply to the sugar mill and refinery results in operating efficiencies. 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.

To implement this increase, U.S. Sugar will need install new fuel oil burners and windbox in the boiler. The new burners will be low-nitrogen oxide (NO<sub>x</sub>) 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.

Bagasse firing rates, bagasse heat input rates, and maximum steam rates for Boiler No. 4 will not be affected by these proposed changes. The increased heat input from 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 maximum hourly and annual emissions for the increased fuel oil firing in Boiler No. 4 are presented in Attachment UC-EU1-G8. Emissions due to bagasse firing will not change, and therefore emissions due to bagasse firing are not presented in this attachment.

The emission factors used for particulate matter (both PM and PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), NO<sub>x</sub>, carbon monoxide (CO), volatile organic compounds (VOC), sulfuric acid mist (SAM), lead, mercury and beryllium are from the Environmental Protection Agency's (EPA's) AP-42, factors for No. 2 fuel oil combustion. A removal efficiency of 99 percent for lead and beryllium is assumed due to wet scrubber control. The activity factors are based on the proposed maximum fuel oil heat input of 326.25 MMBtu/hr and the current limit of 500,000 gallons of fuel oil per year or Boiler No. 4.

U. S. Sugar will burn No. 2 fuel oil subsequent to installing the new fuel oil burners. The maximum sulfur content of the fuel oil will be 0.4 percent. This will reduce the fuel oil sulfur content of the fuel oil burned in Boiler No. 4 from the current 0.7 percent to 0.4 percent.

The current actual emissions from Boiler No. 4 due to fuel oil firing are presented in Table 1. The current actual emissions are based on the average emissions from 2000 and 2001. The emissions from 2000 and 2001 are from U.S. Sugar's annual operating reports (AORs) for each respective year. Lead, beryllium and mercury have not been required to be reported in the AORs, so these emissions were calculated using AP-42 factors for distillate oil combustion and the activity factors for each respective year. As with the future potential emissions, a removal efficiency of 99 percent for lead and beryllium is assumed due to wet scrubber control.

### 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 Clean 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 the Florida Department of Environmental Protection (FDEP).

A "major facility" is defined as any one of 28 named source categories that have the potential to emit 100 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 No. 4's current 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;
- The increased fuel oil firing rate will occur when the bagasse supply has been interrupted;
- U.S. Sugar intends to burn bagasse when it is available;
- 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 No. 4 is firing 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<sub>2</sub>, NO<sub>x</sub> and PM emissions from steam generating units.

Boiler No. 4 is an "existing facility" under the NSPS definitions, and is not currently subject to Subpart Db. Boiler No. 4 was originally constructed prior to 1970 at a power plant, and had a total of four oil guns. The boiler was relocated to the Clewiston Mill after being permitted by U. S. Sugar in 1985. Only two oil guns were retained, limiting the boiler to 225 MMBtu/hr heat input from oil. As a result, "modification" under the NSPS definition was not triggered. Today, Boiler No. 4 is still classified as an "existing facility" under NSPS.

To become subject to NSPS, the proposed changes to Boiler No. 4 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 No. 4 qualify as a modification, the current hourly SO<sub>2</sub>, NO<sub>x</sub> 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. As shown in Table 3, the proposed changes will not result in an hourly increase of SO<sub>2</sub>, NO<sub>x</sub>, or PM. Therefore, the proposed changes to Boiler No. 4 will not trigger NSPS Subpart Db requirements.

Although Boiler No. 4 will not be subject to NSPS, Boiler No. 4 will nevertheless meet the Subpart Db emission standards for SO<sub>2</sub> and PM by burning very low sulfur fuel oil (i.e., fuel oil with a sulfur content of 0.5 percent or less). NSPS emission standards for NO<sub>x</sub> would not apply since Boiler No. 4 is subject to a cap on annual capacity factor for fuel oil that does not exceed 10 percent of the annual heat input (40 CFR 60.44b(c)). The current opacity limit of 20 percent for Boiler No. 4 is also equivalent to the Subpart Db opacity standard.

Table 1. Current Actual Emissions Due to Oil Consumption, Boiler No. 4,  
 U.S. Sugar Corporation Clewiston

Regulated Pollutant	Actual Emissions <sup>a</sup> (TPY)		
	2000	2001	Average
Particulate Matter (PM)	0.97	0.83	0.90
Particulate Matter (PM <sub>10</sub> )	0.83	0.71	0.77
Sulfur Dioxide (SO <sub>2</sub> )	5.76	4.74	5.25
Nitrogen Oxides (NO <sub>x</sub> )	4.36	4.05	4.21
Carbon Monoxide (CO)	0.46	0.43	0.45
Volatile Organic Compound (VOC)	0.03	0.02	0.03
Lead - Total	1.4E-06	1.3E-06	1.4E-06
Sulfur Acid Mist (SAM)	0.45	0.42	0.44
Beryllium (Be)	2.6E-08	2.4E-08	2.5E-08
Mercury (Hg)	1.0E-05	9.7E-06	1.0E-05

Footnotes:

<sup>a</sup> Based on emissions due to fuel oil from calendar years 2000 and 2001.

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

Regulated Pollutant	Actual Emissions <sup>a</sup> (TPY)	Future Potential Emissions <sup>b</sup> (TPY)	Net Change in Emissions (TPY)	PSD Significant Emission Rate (TPY)	PSD Review Applies?
Particulate Matter (PM)	0.90	0.5	(0.4)	25	NO
Particulate Matter (PM <sub>10</sub> )	0.77	0.3	(0.5)	15	NO
Sulfur Dioxide (SO <sub>2</sub> )	5.25	14.2	9.0	40	NO
Nitrogen Oxides (NO <sub>x</sub> )	4.21	6.0	1.8	40	NO
Carbon Monoxide (CO)	0.45	1.3	0.8	100	NO
Volatile Organic Compound (VOC)	0.03	0.05	0.02	40	NO
Lead - Total	1.4E-06	3.0E-06	1.7E-06	0.6	NO
Sulfur Acid Mist (SAM)	0.44	0.6	0.2	7	NO
Beryllium (Be)	2.5E-08	1.0E-06	9.9E-07	4.0E-04	NO
Mercury (Hg)	1.0E-05	1.0E-04	9.1E-05	0.1	NO

## Footnotes:

<sup>a</sup> Based on emissions due to fuel oil firing in Boiler No. 4 for calendar years 2000 and 2001. See Table 1.

<sup>b</sup> Based on proposed fuel oil firing rates. See Attachment UC-EU1-G8 for calculations.

Table 3. Current Maximum Hourly Emissions Versus Future Maximum Hourly Emissions  
 Due to Fuel Oil Firing in Boiler No. 4, U.S. Sugar Corporation Clewiston

Regulated Pollutant	Maximum Hourly Emissions		Increase in Maximum Hourly Emissions? (Yes/No)
	Current <sup>a</sup> (lb/hr)	Future <sup>b</sup> (lb/hr)	
Particulate Matter (PM)	10.5	4.8	No
Sulfur Dioxide (SO <sub>2</sub> )	157.5	137.3	No
Nitrogen Oxides (NO <sub>x</sub> )	70.5	58.0	No

Footnotes:

<sup>a</sup> Based on AP-42 emissions factors, 225 MMBtu/hr, and 0.7% sulfur fuel oil.

<sup>b</sup> Based on AP-42 emissions factors, 326.25 MMBtu/hr, and 0.4% sulfur fuel oil.