

Golder Associates Inc.

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

January 8, 2003



0237588

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

RECEIVED

JAN 21 2003

BUREAU OF AIR REGULATION

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

RE: SUGAR CANE GROWERS COOPERATIVE OF FLORIDA
BELLE GLADE MILL
GRATE REPLACEMENTS FOR BOILER NOS. 1 AND 2

Dear Mr. Linero:

Sugar Cane Growers Cooperative of Florida (SCGCF) operates six bagasse/oil-fired boilers at its Belle Glade sugar mill located in Palm Beach. The facility currently operates under Title V permit No. 0990026-004-AV, issued August 28, 2002. The purpose of this correspondence is to request authorization to replace the existing traveling grates in Boiler Nos. 1 and 2 with water-cooled pinhole grates. These changes are very similar to the grate replacement project approved a few years ago for Boiler No. 3. As in that case, we believe this replacement falls under the definition of routine maintenance, repair and replacement, and that there will be no increase in emissions associated with this replacement.

Three (3) copies of a construction permit application to request this change is attached. One (1) copy is also being sent to the Department's Fort Myers District office. SCGCF would like to implement this change in the coming off-season. 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: Ron Blackburn, Ft. Myers District
Jose Alvarez
Kathy Lockhart
Gary Perko

P:\Projects\2002\0237588 SCGC - Glades\4\4.1\1\020803.doc

Q. Hammer PBC HD

RECEIVED

JAN 21 2003

BUREAU OF AIR REGULATION

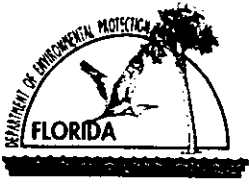
**AIR CONSTRUCTION PERMIT
APPLICATION
BOILER NOS. 1 AND 2 – GRATE REPLACEMENT
BELLE GLADE, FLORIDA**

**Prepared For:
Sugar Cane Growers Cooperative of Florida
1500 West Sugar House Road
Belle Glade, Florida 33430**

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

**January 2003
0137571**

**DISTRIBUTION:
4 Copies - FDEP
3 Copies – SCGCF
2 Copies – Golder Associates Inc.**



Department of Environmental Protection

Division of Air Resources Management

RECEIVED

JAN 21 2003

APPLICATION FOR AIR PERMIT - TITLE V SOURCE

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

BUREAU OF AIR REGULATION

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: Sugar Cane Growers Cooperative of Florida	
2. Site Name: Glades Sugar House	
3. Facility Identification Number: 0990026 [] Unknown	
4. Facility Location: Street Address or Other Locator: 1500 West Sugar House Road City: Belle Glade County: FL Zip Code: 33430-0666	
5. Relocatable Facility? [] Yes [X] No	6. Existing Permitted Facility? [X] Yes [] No

Application Contact

1. Name and Title of Application Contact: Jose F. Alvarez, V.P. Planning and Plant Operations	
2. Application Contact Mailing Address: Organization/Firm: Sugar Cane Growers Cooperative of Florida Street Address: 1500 West Sugar House Road/P.O. Box 666 City: Belle Glade State: FL Zip Code: 33430-0666	
3. Application Contact Telephone Numbers: Telephone: (561) 996 - 4759 Fax: (561) 996 - 4747	

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	1-21-2003
2. Permit Number:	0990026-006-AC
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: _____

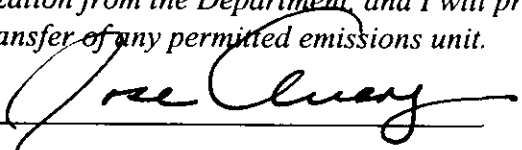
Reason for revision: _____

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: Jose F. Alvarez, V.P. Planning and Plant Operations
2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: Sugar Cane Growers Cooperative of Florida Street Address: 1500 West Sugar House Road/P.O. Box 666 City: Belle Glade State: FL Zip Code: 33430-0666
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: (561) 996 - 4759 Fax: (561) 996 - 4747
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>1/20/03</u>

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

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

*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.

David A. Buff

Signature

1/8/03

Date

(seal)

* Attach any exception to certification statement.

Construction/Modification Information

1. Description of Proposed Project or Alterations:

Replace existing grates and modify combustion air systems on Boiler No. 1 and Boiler No. 2.

2. Projected or Actual Date of Commencement of Construction: **01 April 2003**

3. Projected Date of Completion of Construction: **01 April 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): 534.9 North (km): 2,953.3			
2. Facility Latitude/Longitude: Latitude (DD/MM/SS): 26 / 42 / 06 Longitude (DD/MM/SS): 80 / 38 / 57			
3. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 20	6. Facility SIC(s): 2061
7. Facility Comment (limit to 500 characters): This facility represents a sugar mill and a group of emission units which provide logistic support to manufacturing operations.			

Facility Contact

1. Name and Title of Facility Contact: Kathy Lockhart, Environmental Manager
2. Facility Contact Mailing Address: Organization/Firm: Sugar Cane Growers Cooperative of Florida Street Address: 1500 West Sugar House Road/P.O. Box 666 City: Belle Glade State: FL Zip Code: 33430-0666
3. Facility Contact Telephone Numbers: Telephone: (561) 996 - 4779 Fax: (561) 996 - 4780

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: NESHP 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(4)(c), F.A.C.: Unconfined Emissions of Particulate Matter.

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

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**

B. FACILITY POLLUTANTS

List of Pollutants Emitted

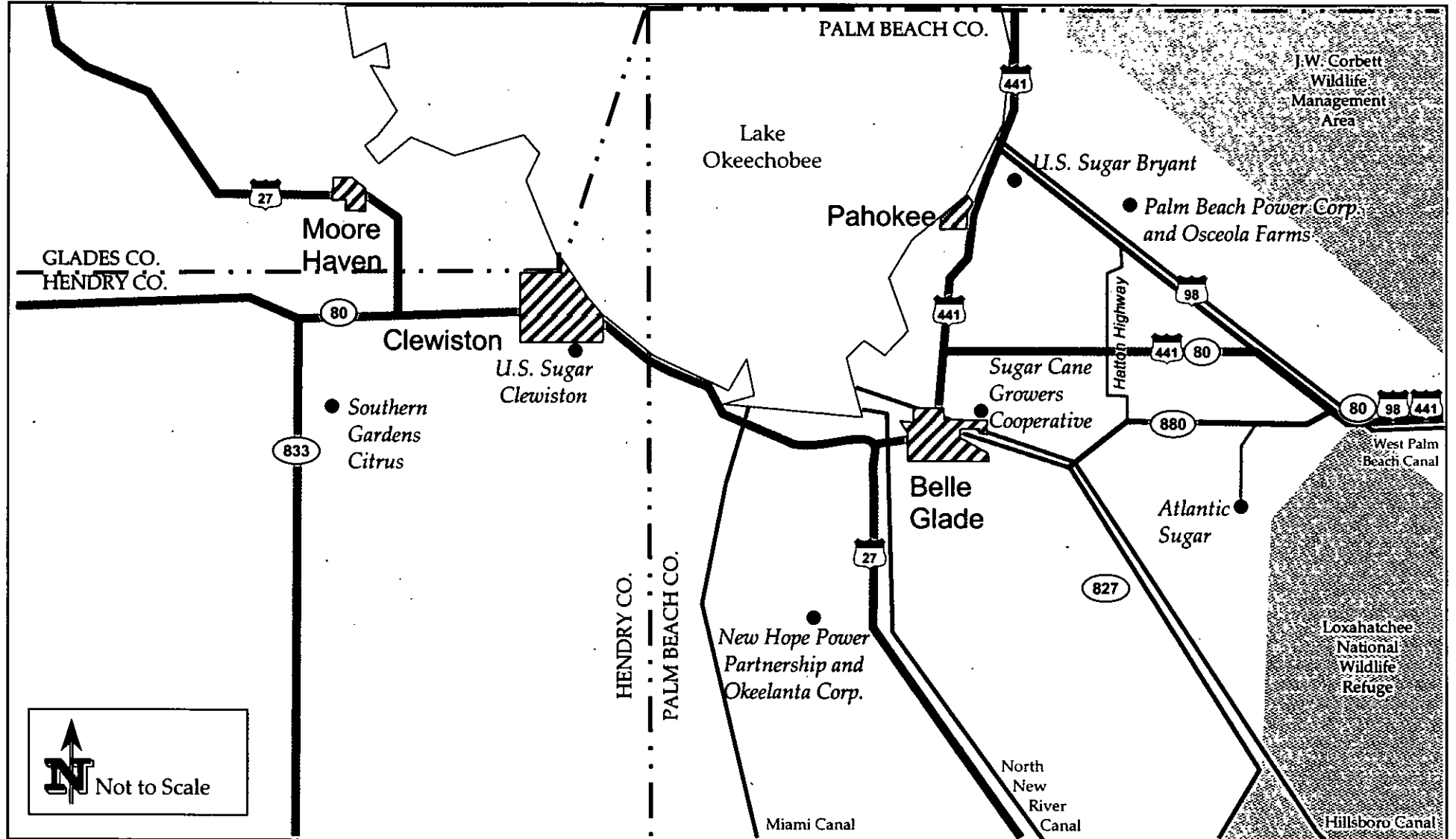
1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap		4. Basis for Emissions Cap	5. Pollutant Comment
		lb/hour	tons/year		
SO ₂	A				Sulfur Dioxide
VOC	A				Volatile Organic Compounds
PM	A				Particulate Matter - Total
PM ₁₀	A				Particulate Matter - PM ₁₀
CO	A				Carbon Monoxide
NO _x	A				Nitrogen Oxides
H017	A				Benzene
H115	A				Methanol
H132	A				Naphthalene
H151	A				Polycyclic organic matter
HAPs	A				Total HAPs

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 GSH-FI-C1

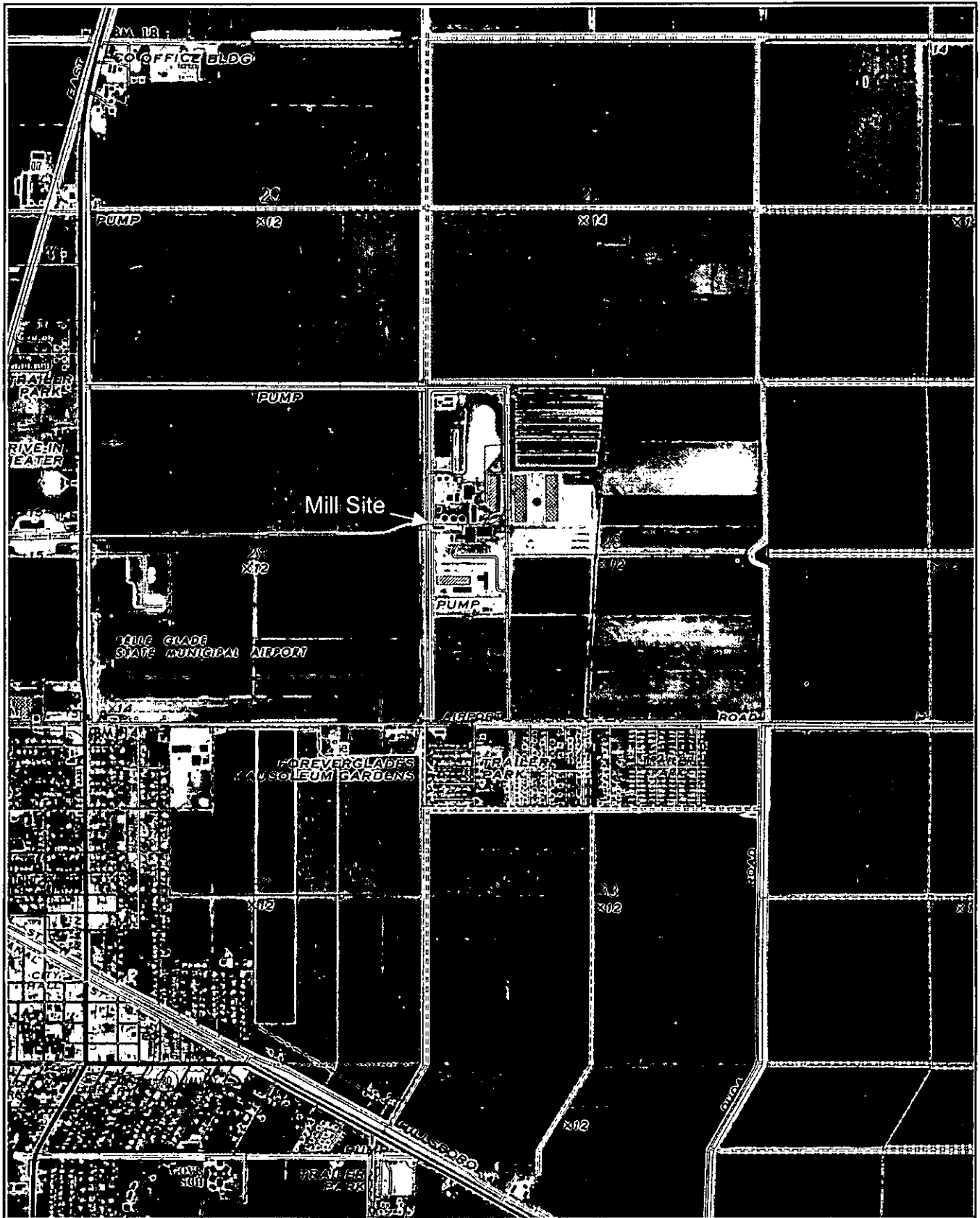
AREA MAPS



Attachment GSH-FI-C1a
 Area Map Showing Facility Location (Including Florida Sugar Mills)
 Glades Sugar House, Sugar Cane Growers Corporation, Belle Glade, Florida

Source: Golder Associates Inc., 2002.





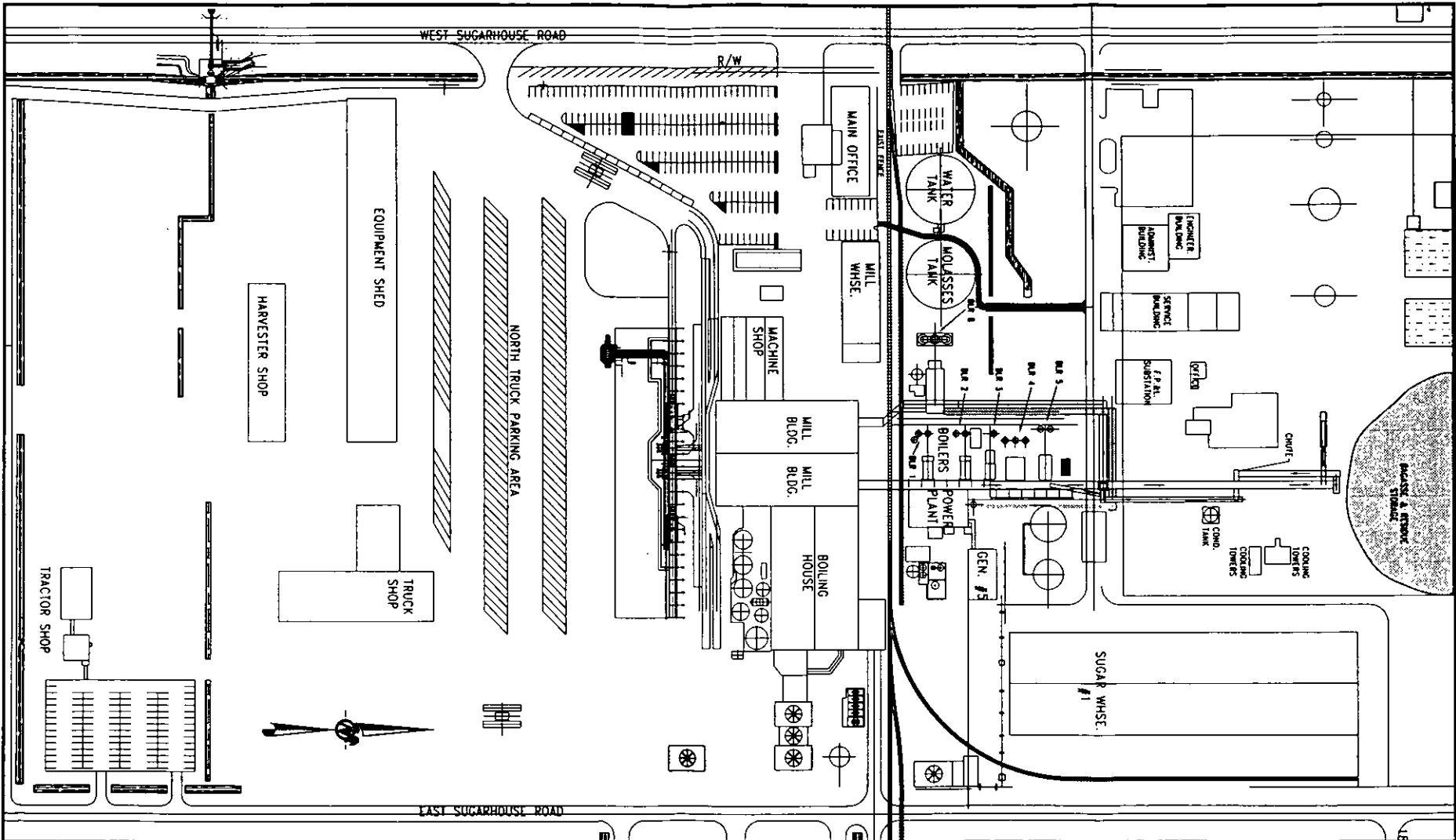
Attachment GSH-FI-C1b
Area Map (USGS)
Glades Sugar House, Sugar Cane Growers Corporation, Belle Glade, Florida

Source: Golder, 2002.



ATTACHMENT GSH-FI-C2

FACILITY PLOT PLAN



PROJECT NO.	08-2531
FILE NO.	GSH-FI-C2 DWG
REV.	SCALE
DESIGN	
CADD	AMB
CHECK	DB
DATE	1/17/03
DATE	1/18/03

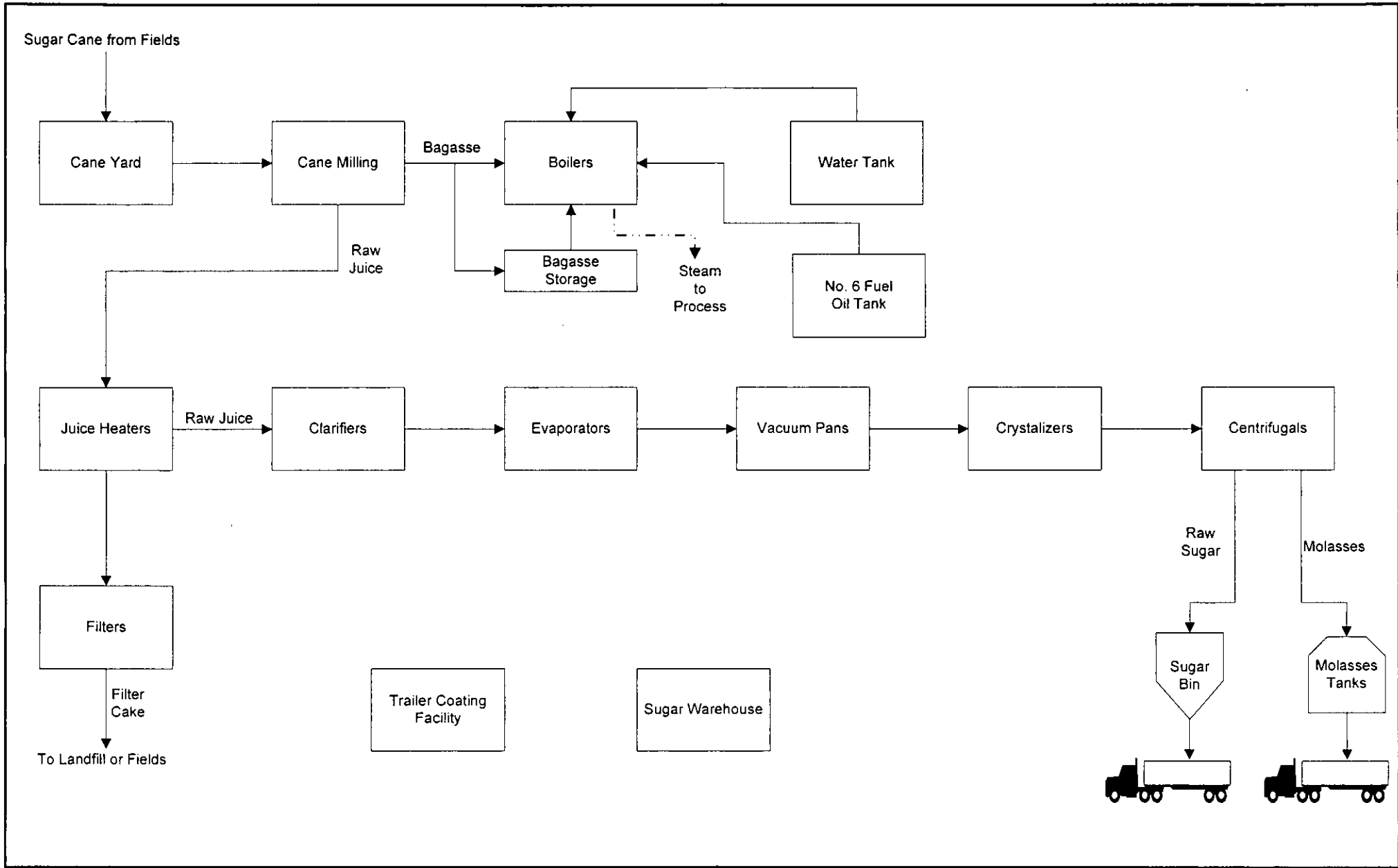
**ATTACHMENT GSH-FI-C2
FACILITY PLOT PLAN**

PROJECT
**SUGAR CANE GROWERS
COOPERATIVE OF FLORIDA**
BELLE GLADE, FLORIDA



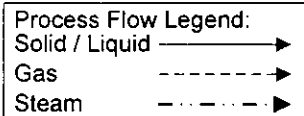
ATTACHMENT GSH-FI-C3

PROCESS FLOW DIAGRAM



ATTACHMENT GSH-FI-C3
 PROCESS FLOW DIAGRAM
 SUGAR CANE GROWERS COOPERATIVE OF FLORIDA

GOLDER, 2002.



0237571\4\4.2\4.4.1 GLADES\GSH-FI-C3.VSD

01/07/03



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

<p>1. Type of Emissions Unit Addressed in This Section: (Check one)</p> <p><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).</p> <p><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.</p> <p><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.</p>			
<p>2. Regulated or Unregulated Emissions Unit? (Check one)</p> <p><input checked="" type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.</p> <p><input type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.</p>			
<p>3. Description of Emissions Unit Addressed in This Section (limit to 60 characters):</p> <p>Boiler No. 1</p>			
<p>4. Emissions Unit Identification Number: <input type="checkbox"/> No ID</p> <p>ID: 001 <input type="checkbox"/> ID Unknown</p>			
<p>5. Emissions Unit Status Code:</p> <p>A</p>	<p>6. Initial Startup Date:</p>	<p>7. Emissions Unit Major Group SIC Code:</p> <p>20</p>	<p>8. Acid Rain Unit?</p> <p><input type="checkbox"/></p>
<p>9. Emissions Unit Comment: (Limit to 500 Characters)</p> <p>This boiler is a traveling grate boiler fired by bagasse, residue, and fuel oil. This emission unit produces steam for use in the production process of raw sugar cane. A water-cooled pin-hole grate will be installed in the boiler, along with combustion air modifications.</p>			

Emissions Unit Control Equipment

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

**Mechanical Dust Collector
Joy Turbulaire Impingement Wet Scrubber, Type D**

2. Control Device or Method Code(s): **002, 076**

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:	334.1	mmBtu/hr
2. Maximum Incineration Rate:	lb/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:	175,000	lb/hr
5. Requested Maximum Operating Schedule:		
	24	7
	hours/day	days/week
	44	7,296
	weeks/year	hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):		
<p>The maximum rates are based on a 24-hour average. Max heat input based on burning bagasse. Boiler operating pressure & temperature: 400 psig, 585°F.</p>		

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

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
62-296.500(1)(b), F.A.C: RACT for VOC and NO _x
62-296.500(2)(a), F.A.C: RACT for VOC and NO _x
62-296.500(2)(c), F.A.C: RACT for VOC and NO _x
62-296.500(6), F.A.C: RACT for VOC and NO _x
62-296.570(1), F.A.C: RACT for VOC and NO _x
62-296.570(2), F.A.C: RACT for VOC and NO _x
62-296.570(3), F.A.C: RACT for VOC and NO _x
62-296.570(4)(a), F.A.C: RACT for VOC and NO _x
62-296.570(4)(b)6., F.A.C: RACT for VOC and NO _x
62-296.570(4)(c), F.A.C: RACT for VOC and NO _x
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(8), F.A.C: General Compliance Test Requirements
62-297.401(5), F.A.C: EPA Test Method 5
62-297.401(7)(e), F.A.C: EPA Test Method 7E
62-297.401(9), F.A.C: EPA Test Method 9
62-297.401(18), F.A.C: EPA Test Method 18
62-297.401(25)(a), F.A.C: EPA Test Method 25A
62-297.440(1)(b), F.A.C: Supplemental Test Procedures

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? Blr 1		2. Emission Point Type Code: 1	
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: V	6. Stack Height: 150 feet	7. Exit Diameter: 7.00 feet	
8. Exit Temperature: 160 °F	9. Actual Volumetric Flow Rate: 159,000 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 Comment (limit to 200 characters):			

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

Segment Description and Rate: Segment 1 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): External combustion boilers: Industrial: Bagasse		
2. Source Classification Code (SCC): 1-02-011-01		3. SCC Units: Tons Burned
4. Maximum Hourly Rate: 20.88	5. Maximum Annual Rate: 152,350	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 16
10. Segment Comment (limit to 200 characters): Based on 334.1 MMBtu/hr (24-hr average) and a heating value of 8,000 Btu/lb (dry) for bagasse.		

Segment Description and Rate: Segment 2 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): External combustion boilers: Industrial: Solid Fuels		
2. Source Classification Code (SCC): 1-02-012-01		3. SCC Units: Tons Burned
4. Maximum Hourly Rate: 16.52	5. Maximum Annual Rate: 120,507	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 17.8
10. Segment Comment (limit to 200 characters): Based on 294.0 MMBtu/hr (24-hr average) and a heating value of 8,900 Btu/lb (dry) for bagasse residue.		

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

Segment Description and Rate: Segment 3 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): 1000 Gallons of #6 Oil Burned		
2. Source Classification Code (SCC): 1-02-004-01		3. SCC Units: Thousand Gallons Burned
4. Maximum Hourly Rate: 1.521	5. Maximum Annual Rate: 11,098	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 2.40	8. Maximum % Ash:	9. Million Btu per SCC Unit: 151
10. Segment Comment (limit to 200 characters): Based on 229.7 MMBtu/hr (24-hr average) and heating value of 151,000 Btu/gal for No. 6 fuel oil.		

Segment Description and Rate: Segment 4 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): External combustion boilers: Industrial: Waste Oil		
2. Source Classification Code (SCC): 1-02-013-02		3. SCC Units: Thousand Gallons Burned
4. Maximum Hourly Rate: 0.04	5. Maximum Annual Rate: 75.00	6. Estimated Annual Activity Factor:
8. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 151
10. Segment Comment (limit to 200 characters): The used oil is generated solely by the facility, mostly during the repair season. The on-specification used oil is properly stored and burned in our boilers for energy recovery. The amount generated ranges between 50,000 and 75,000 gallons per year.		

**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	002		EL
PM ₁₀	002		NS
NO _x			EL
VOC			EL
SO ₂			EL
CO			NS
H017			NS
H115			NS
H132			NS
H151			NS
HAPS			NS

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

Potential/Fugitive Emissions

1. Pollutant Emitted: PM	2. Total Percent Efficiency of Control:
3. Potential Emissions: 83.5 lb/hour 304.7 tons/year	4. Synthetically Limited? [X]
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 _____ to _____ tons/year	
6. Emission Factor: 0.25 lb/MMBtu Reference: Permit Limit	7. Emissions Method Code: 0
8. Calculation of Emissions (limit to 600 characters): 334.1 MMBtu/hr (24-hr average) x 0.25 lb/MMBtu = 83.5 lb/hr 83.5 lb/hr x 7,296 hr/yr + 2,000 lb/ton = 304.7 TPY	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Emission limit for carbonaceous burning only.	

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.25 lb/MMBtu	4. Equivalent Allowable Emissions: 83.5 lb/hour 304.7 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 5	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): The Requested Allowable Emission limit is based on permit condition. The Equivalent Allowable Emissions were calculated as if only bagasse were being burned while the source achieves its maximum steam rate.	

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

Potential/Fugitive Emissions

1. Pollutant Emitted: PM		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 2 of 2

1. Basis for Allowable Emissions Code: RULE		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 0.10 lb/MMBtu		4. Equivalent Allowable Emissions: 22.97 lb/hour 83.8 tons/year	
5. Method of Compliance (limit to 60 characters): EPA Method 5			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): RULE 62-296.410(1)(b)2, F.A.C. The maximum allowable figures have been calculated as if only oil were being used at the maximum oil firing rate.			

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

Potential/Fugitive Emissions

1. Pollutant Emitted: NO_x	2. Total Percent Efficiency of Control:
3. Potential Emissions: 191.1 lb/hour 697.1 tons/year	4. Synthetically Limited? [<input checked="" type="checkbox"/>]
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 _____ to _____ tons/year	
6. Emission Factor: 0.65 lb/MMBtu Reference: Permit Limit	7. Emissions Method Code: 0
8. Calculation of Emissions (limit to 600 characters): $294.0 \text{ MMBtu/hr (24-hr average)} \times 0.65 \text{ lb/MMBtu} = 191.1 \text{ lb/hr}$ $191.1 \text{ lb/hr} \times 7,296 \text{ hr/yr} \div 2,000 \text{ lb/ton} = 697.1 \text{ TPY}$	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Emission limit for residue burning only.	

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.65 lb/MMBtu	4. Equivalent Allowable Emissions: 191.1 lb/hour 697.1 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 7 or 7E	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): The maximum allowable figures have been calculated as if only residue were being used while the boiler achieves its maximum steam rate. The allowable emission rate of 0.65 lb/MMBtu was requested by permittee pursuant to rule 62-296.470, F.A.C.	

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

Potential/Fugitive Emissions

1. Pollutant Emitted: NO_x	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: OTHER	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.45 lb/MMBtu	4. Equivalent Allowable Emissions: 150.3 lb/hour 548.5 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 7 or 7E	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): The maximum allowable figures have been calculated as if only bagasse were being used while the boiler achieves its maximum steam rate. The allowable emission rate of 0.45 lb/MMBtu was requested by permittee pursuant to rule 62-296.570, F.A.C.	

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

Potential/Fugitive Emissions

1. Pollutant Emitted: VOC	2. Total Percent Efficiency of Control:
3. Potential Emissions: 233.9 lb/hour 853.2 tons/year	4. Synthetically Limited? [<input checked="" type="checkbox"/>]
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 _____ to _____ tons/year	
6. Emission Factor: 0.70 lb/MMBtu Reference: Proposed Permit Limit	7. Emissions Method Code: 0
8. Calculation of Emissions (limit to 600 characters): 334.1 MMBtu/hr (24-hr average) x 0.70 lb/MMBtu = 233.9 lb/hr 233.9 lb/hr x 7,296 hr/yr ÷ 2,000 lb/ton = 853.2 TPY	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Emission limit for bagasse fuel burning.	

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.70 lb/MMBtu	4. Equivalent Allowable Emissions: 233.9 lb/hour 853.2 tons/year
5. Method of Compliance (limit to 60 characters): EPA Methods 25A and 18 Combined	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): The equivalent allowable figures have been calculated as if only bagasse fuel were being used while the boiler achieves its maximum steam rate. The allowable emission rate of 0.70 lb/MMBtu was requested by permittee pursuant to rule 62-296.570, F.A.C.	

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

Potential/Fugitive Emissions

1. Pollutant Emitted: VOC		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: OTHER		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 0.40 lb/MMBtu		4. Equivalent Allowable Emissions: 117.6 lb/hour 429.0 tons/year	
5. Method of Compliance (limit to 60 characters): EPA Methods 25A and 18 combined			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): The equivalent allowable figures have been calculated as if only residue were being used while the boiler achieves its maximum steam rate. The allowable emission rate of 0.4 lb/MMBtu was requested by permittee pursuant to rule 62-296.570, F.A.C.			

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

Potential/Fugitive Emissions

1. Pollutant Emitted: SO₂		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 597.7 lb/hour 2,180.4 tons/year		4. Synthetically Limited? <input checked="" type="checkbox"/>	
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 to tons/year			
6. Emission Factor: 2.4% S oil Reference: Permit Limit		7. Emissions Method Code: 0	
8. Calculation of Emissions (limit to 600 characters): See Attachment GSH-EU1-G8			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):			

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: OTHER		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 2.4% S oil		4. Equivalent Allowable Emissions: 591.4 lb/hour 2,157.4 tons/year	
5. Method of Compliance (limit to 60 characters): EPA Method 5			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): Allowable emissions based on fuel oil burning only.			

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

Potential/Fugitive Emissions

1. Pollutant Emitted: CO		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 2,004.6 lb/hour 7,312.8 tons/year		4. Synthetically Limited? <input checked="" type="checkbox"/>	
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 _____ to _____ tons/year			
6. Emission Factor: 6.0 lb/MMBtu Reference: Test Data		7. Emissions Method Code: 1	
8. Calculation of Emissions (limit to 600 characters): $334.1 \text{ MMBtu/hr (24-hr average)} \times 6.0 \text{ lb/MMBtu} = 2,004.6 \text{ lb/hr}$ $2,004.6 \text{ lb/hr} \times 7,296 \text{ hr/yr} \div 2,000 \text{ lb/ton} = 7,312.8$			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Maximum and annual emissions based on average of 6.0 lb/MMBtu.			

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: VE	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions: 30 % Exceptional Conditions: 40 % Maximum Period of Excess Opacity Allowed: 2 min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment (limit to 200 characters): Rule 62-296.410(1)(b)1, F.A.C.	

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

Continuous Monitoring System: Continuous Monitor 1 of 3

1. Parameter Code: PRS	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other
4. Monitor Information: Manufacturer: Foxboro Model Number: 863DP-M2D1SS-AM Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): Measures total pressure drop across wet scrubber.	

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 3

1. Parameter Code: Water Pressure	2. Pollutant(s):
3. CMS Requirement:	[] Rule [X] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): Measures inlet water pressure to the wet scrubber.	

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 3

1. Parameter Code: FLOW	2. Pollutant(s):
3. CMS Requirement:	[] Rule [X] Other
4. Monitor Information: Manufacturer: Rosemount Model Number: 1151DP4S22M1B1 Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): Measures steam flow on Boiler No. 1.	

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

Supplemental Requirements

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: <u>GSH-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>GSH-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>GSH-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 <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Identification of Additional Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
15. Acid Rain Part Application (Hard-copy Required) <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ <input type="checkbox"/> Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) Attached, Document ID: _____ <input type="checkbox"/> Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

ATTACHMENT GSH-EU1-G8

EMISSION CALCULATIONS

Attachment GSH-EU1-G8. SCGC Boiler Nos. 1 and 2 Maximum Fuel Oil Burning And SO₂ Emissions

Boiler	Total	Maximum	Maximum SO ₂ Emissions						
	Maximum	Heat Input	Fuel Oil ^a		Bagasse ^a	Fuel Oil ^b	Bagasse ^c	Total	
	Heat Input (MMBtu/hr)	From Fuel Oil (MMBtu/hr)	gal/hr	MMBtu/hr	(MMBtu/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(g/s)
<u>MAXIMUM 24-HOUR CASE</u>									
1	334.1	229.7	1,521	229.7	104.4	591.4	6.3	597.7	75.31
2	334.1	229.7	1,521	229.7	104.4	591.4	6.3	597.7	75.31

^a Assumes 55% combustion efficiency for both bagasse and fuel oil.

^b Based on stoichiometric calculation for SO₂ emissions:

Fuel oil : 2.4% sulfur

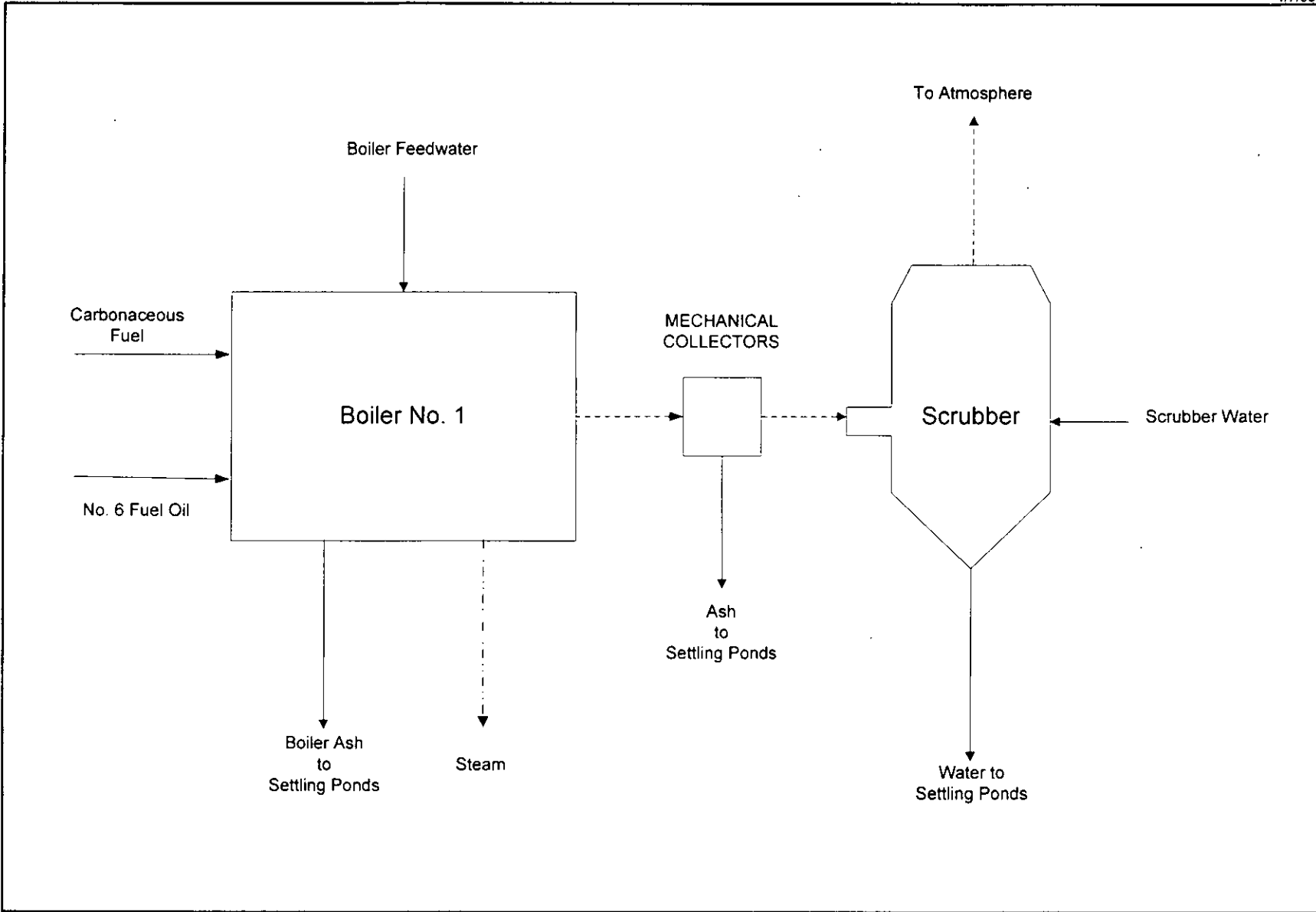
18,642 Btu/lb; 151,000 Btu/gal

8.1 lb/gal

^c Based on SO₂ emissions from bagasse of 0.06 lb/MMBtu.

ATTACHMENT GSH-EU1-J1

PROCESS FLOW DIAGRAM



Attachment GSH-EU1-J1
Process Flow Diagram

Process Area: Boiler No. 1

Sugar Cane Growers Cooperative of Florida

Latest Revision Date: 1/7/2003

Process Flow Legend:

Solid / Liquid	—————>
Gas	- - - - ->
Steam	- · - · ->



ATTACHMENT GSH-EU1-J2

FUEL ANALYSIS

**ATTACHMENT GSH-EU1-J2
BOILER FUEL ANALYSIS**

SUGAR CANE GROWERS COOPERATIVE OF FLORIDA

PARAMETER	BAGASSE*	RESIDUE*	NO. 6 FUEL OIL**
Dry Basis:			
BTU/LB	8,000	8,900	17,500
LBS/GAL	--	--	8.1
AVERAGE ULTIMATE ANALYSIS: (Dry Basis %)			
			**
Carbon	49	51	87.3
Hydrogen	6	5	10.5
Nitrogen	0.38	0.4	0.28
Oxygen	43	35	0.64
Sulfur	0.06	0.4--0.6	1.0
Ash	1.8	1.9--8.0	0.1
Water	54	40	0.2

* Sources: Sugar Cane Growers Cooperative, 2002. It represents average values, since biomass in particular could vary depending on environmental conditions, as well as, harvesting procedures.

** Source: Perry's Chemical Engineers' Handbook. Sixth Edition

ATTACHMENT GSH-EU1-J3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

**ATTACHMENT GSH-EU1-J3
DETAILED DESCRIPTION OF CONTROL EQUIPMENT**

**SUGAR CANE GROWERS COOPERATIVE OF FLORIDA
BOILER NO. 1**

Control equipment: Mechanical collectors followed by one wet impingement turbulaire scrubber, custom design.

Scrubbing Liquid:	Water
Inlet Water Pressure (psi)	0-100
Pressure Drop Across Scrubber (Inches H ₂ O)	0-17

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>Boiler No. 2</p>			
4. Emissions Unit Identification Number:			
ID: 002		<input type="checkbox"/> No ID	<input type="checkbox"/> ID Unknown
5. Emissions Unit Status Code: A	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code: 20	8. Acid Rain Unit? <input type="checkbox"/>
9. Emissions Unit Comment: (Limit to 500 Characters)			
<p>This boiler is a traveling grate boiler fired by bagasse, residue, and fuel oil. This emission unit produces steam for use in the production process of raw sugar cane. A water-cooled pin-hole grate will be installed in the boiler, along with combustion air modifications.</p>			

Emissions Unit Control Equipment

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

**Mechanical Dust Collector
Joy Turbulaire Impingement Wet Scrubber, Type D**

2. Control Device or Method Code(s): **002, 076**

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:	334.1	mmBtu/hr
2. Maximum Incineration Rate:	lb/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:	175,000	lb/hr
5. Requested Maximum Operating Schedule:		
24	hours/day	7 days/week
44	weeks/year	7,296 hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):		
<p>The maximum rates are based on a 24-hour average. Max heat input based on burning bagasse. Boiler operating pressure & temperature: 400 psig, 585°F.</p>		

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

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
62-296.500(1)(b), F.A.C: RACT for VOC and NO _x
62-296.500(2)(a), F.A.C: RACT for VOC and NO _x
62-296.500(2)(c), F.A.C: RACT for VOC and NO _x
62-296.500(6), F.A.C: RACT for VOC and NO _x
62-296.570(1), F.A.C: RACT for VOC and NO _x
62-296.570(2), F.A.C: RACT for VOC and NO _x
62-296.570(3), F.A.C: RACT for VOC and NO _x
62-296.570(4)(a), F.A.C: RACT for VOC and NO _x
62-296.570(4)(b)6., F.A.C: RACT for VOC and NO _x
62-296.570(4)(c), F.A.C: RACT for VOC and NO _x
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(8), F.A.C: General Compliance Test Requirements
62-297.401(5), F.A.C: EPA Test Method 5
62-297.401(7)(e), F.A.C: EPA Test Method 7E
62-297.401(9), F.A.C: EPA Test Method 9
62-297.401(18), F.A.C: EPA Test Method 18
62-297.401(25)(a), F.A.C: EPA Test Method 25A
62-297.440(1)(b), F.A.C: Supplemental Test Procedures

**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? Blr 2		2. Emission Point Type Code: 1	
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: V	6. Stack Height: 150 feet	7. Exit Diameter: 7.00 feet	
8. Exit Temperature: 160 °F	9. Actual Volumetric Flow Rate: 159,000 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 Comment (limit to 200 characters):			

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

Segment Description and Rate: Segment 1 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): External combustion boilers: Industrial: Bagasse		
2. Source Classification Code (SCC): 1-02-011-01		3. SCC Units: Tons Burned
4. Maximum Hourly Rate: 20.88	5. Maximum Annual Rate: 152,350	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 16
10. Segment Comment (limit to 200 characters): Based on 334.1 MMBtu/hr (24-hr average) and a heating value of 8,000 Btu/lb (dry) for bagasse.		

Segment Description and Rate: Segment 2 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): External combustion boilers: Industrial: Solid Fuels		
2. Source Classification Code (SCC): 1-02-012-01		3. SCC Units: Tons Burned
4. Maximum Hourly Rate: 16.52	5. Maximum Annual Rate: 120,507	6. Estimated Annual Activity Factor:
9. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 17.8
10. Segment Comment (limit to 200 characters): Based on 294.0 MMBtu/hr (24-hr average) and a heating value of 8,900 Btu/lb (dry) for bagasse residue.		

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

Segment Description and Rate: Segment 3 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): 1000 Gallons of #6 Oil Burned		
2. Source Classification Code (SCC): 1-02-004-01		3. SCC Units: Thousand Gallons Burned
4. Maximum Hourly Rate: 1.521	5. Maximum Annual Rate: 11,098	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 2.40	8. Maximum % Ash:	9. Million Btu per SCC Unit: 151
10. Segment Comment (limit to 200 characters): Based on 229.7 MMBtu/hr (24-hr average) and heating value of 151,000 Btu/gal for No. 6 fuel oil.		

Segment Description and Rate: Segment 4 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): External combustion boilers: Industrial: Waste Oil		
2. Source Classification Code (SCC): 1-02-013-02		3. SCC Units: Thousand Gallons Burned
4. Maximum Hourly Rate: 0.04	5. Maximum Annual Rate: 75.00	6. Estimated Annual Activity Factor:
10. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 151
10. Segment Comment (limit to 200 characters): The used oil is generated solely by the facility, mostly during the repair season. The on-specification used oil is properly stored and burned in our boilers for energy recovery. The amount generated ranges between 50,000 and 75,000 gallons per year.		

**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	002		EL
PM ₁₀	002		NS
NO _x			EL
VOC			EL
SO ₂			EL
CO			NS
H017			NS
H115			NS
H132			NS
H151			NS
HAPS			NS

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

Potential/Fugitive Emissions

1. Pollutant Emitted: PM	2. Total Percent Efficiency of Control:
3. Potential Emissions: 83.5 lb/hour 304.7 tons/year	4. Synthetically Limited? [<input checked="" type="checkbox"/>]
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 to tons/year	
6. Emission Factor: 0.25 lb/MMBtu Reference: Permit Limit	7. Emissions Method Code: 0
8. Calculation of Emissions (limit to 600 characters): $334.1 \text{ MMBtu/hr (24-hr average)} \times 0.25 \text{ lb/MMBtu} = 83.5 \text{ lb/hr}$ $83.5 \text{ lb/hr} \times 7,296 \text{ hr/yr} \div 2,000 \text{ lb/ton} = 304.7 \text{ TPY}$	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Emission limit for carbonaceous burning only.	

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.25 lb/MMBtu	4. Equivalent Allowable Emissions: 83.5 lb/hour 304.7 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 5	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): The Requested Allowable Emission limit is based on permit condition. The Equivalent Allowable Emissions were calculated as if only bagasse were being burned while the source achieves its maximum steam rate.	

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

Potential/Fugitive Emissions

1. Pollutant Emitted: PM		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 2 of 2

1. Basis for Allowable Emissions Code: RULE		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 0.10 lb/MMBtu		4. Equivalent Allowable Emissions: 22.97 lb/hour 83.8 tons/year	
5. Method of Compliance (limit to 60 characters): EPA Method 5			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): RULE 62-296.410(1)(b)2, F.A.C. The maximum allowable figures have been calculated as if only oil were being used at the maximum oil firing rate.			

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

Potential/Fugitive Emissions

1. Pollutant Emitted: NO_x		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 191.1 lb/hour 697.1 tons/year		4. Synthetically Limited? <input checked="" type="checkbox"/>	
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 to tons/year			
6. Emission Factor: 0.65 lb/MMBtu Reference: Permit Limit		7. Emissions Method Code: 0	
8. Calculation of Emissions (limit to 600 characters): 294.0 MMBtu/hr (24-hr average) x 0.65 lb/MMBtu = 191.1 lb/hr 191.1 lb/hr x 7,296 hr/yr ÷ 2,000 lb/ton = 697.1 TPY			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Emission limit for residue burning only.			

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: OTHER		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 0.65 lb/MMBtu		4. Equivalent Allowable Emissions: 191.1 lb/hour 697.1 tons/year	
5. Method of Compliance (limit to 60 characters): EPA Method 7 or 7E			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): The maximum allowable figures have been calculated as if only residue were being used while the boiler achieves its maximum steam rate. The allowable emission rate of 0.65 lb/MMBtu was requested by permittee pursuant to rule 62-296.470, F.A.C.			

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

Potential/Fugitive Emissions

1. Pollutant Emitted: NO_x		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 2 of 2

1. Basis for Allowable Emissions Code: OTHER		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 0.45 lb/MMBtu		4. Equivalent Allowable Emissions: 150.3 lb/hour 548.5 tons/year	
5. Method of Compliance (limit to 60 characters): EPA Method 7 or 7E			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): The maximum allowable figures have been calculated as if only bagasse were being used while the boiler achieves its maximum steam rate. The allowable emission rate of 0.45 lb/MMBtu was requested by permittee pursuant to rule 62-296.570, F.A.C.			

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

Potential/Fugitive Emissions

1. Pollutant Emitted: VOC	2. Total Percent Efficiency of Control:
3. Potential Emissions: 233.9 lb/hour 853.2 tons/year	4. Synthetically Limited? [<input checked="" type="checkbox"/>]
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 to tons/year	
6. Emission Factor: 0.70 lb/MMBtu Reference: Proposed Permit Limit	7. Emissions Method Code: 0
8. Calculation of Emissions (limit to 600 characters): 334.1 MMBtu/hr (24-hr average) x 0.70 lb/MMBtu = 233.9 lb/hr 233.9 lb/hr x 7,296 hr/yr ÷ 2,000 lb/ton = 853.2 TPY	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Emission limit for bagasse fuel burning.	

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.70 lb/MMBtu	4. Equivalent Allowable Emissions: 233.9 lb/hour 853.2 tons/year
5. Method of Compliance (limit to 60 characters): EPA Methods 25A and 18 Combined	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): The equivalent allowable figures have been calculated as if only bagasse fuel were being used while the boiler achieves its maximum steam rate. The allowable emission rate of 0.70 lb/MMBtu was requested by permittee pursuant to rule 62-296.570, F.A.C.	

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

Potential/Fugitive Emissions

1. Pollutant Emitted: VOC		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 2 of 2

1. Basis for Allowable Emissions Code: OTHER		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 0.40 lb/MMBtu		4. Equivalent Allowable Emissions: 117.6 lb/hour 429.0 tons/year	
5. Method of Compliance (limit to 60 characters): EPA Methods 25A and 18 combined			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): The equivalent allowable figures have been calculated as if only residue were being used while the boiler achieves its maximum steam rate. The allowable emission rate of 0.4 lb/MMBtu was requested by permittee pursuant to rule 62-296.570, F.A.C.			

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

Potential/Fugitive Emissions

1. Pollutant Emitted: SO₂	2. Total Percent Efficiency of Control:
3. Potential Emissions: 597.7 lb/hour 2,180.4 tons/year	4. Synthetically Limited? <input checked="" type="checkbox"/>
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 _____ to _____ tons/year	
6. Emission Factor: 2.4% S oil Reference: Permit Limit	7. Emissions Method Code: 0
8. Calculation of Emissions (limit to 600 characters): See Attachment GSH-EU1-G8	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 2.4% S oil	4. Equivalent Allowable Emissions: 591.4 lb/hour 2,157.4 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 5	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): Allowable emissions based on fuel oil burning only.	

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

Potential/Fugitive Emissions

1. Pollutant Emitted: CO	2. Total Percent Efficiency of Control:
3. Potential Emissions: 2,004.6 lb/hour 7,312.8 tons/year	4. Synthetically Limited? [<input checked="" type="checkbox"/>]
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 to tons/year	
6. Emission Factor: 6.0 lb/MMBtu Reference: Test Data	7. Emissions Method Code: 1
8. Calculation of Emissions (limit to 600 characters): 334.1 MMBtu/hr (24-hr average) x 6.0 lb/MMBtu = 2,004.6 lb/hr 2,004.6 lb/hr x 7,296 hr/yr ÷ 2,000 lb/ton = 7,312.8	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Maximum and annual emissions based on average of 6.0 lb/MMBtu.	

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: VE	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions: 30 % Exceptional Conditions: 40 % Maximum Period of Excess Opacity Allowed: 2 min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment (limit to 200 characters): Rule 62-296.410(1)(b)1, F.A.C.	

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

Continuous Monitoring System: Continuous Monitor 1 of 3

1. Parameter Code: PRS	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other
4. Monitor Information: Manufacturer: Dwyer Model Number: CAPSUHELIC 4015 C Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): Measures total pressure drop across wet scrubber.	

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 3

1. Parameter Code: Water Pressure	2. Pollutant(s):
3. CMS Requirement:	[] Rule [<input checked="" type="checkbox"/>] Other
4. Monitor Information: Manufacturer: _____ Model Number: _____ Serial Number: _____	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): Measures inlet water pressure to the wet scrubber.	

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 3

1. Parameter Code: FLOW	2. Pollutant(s):
3. CMS Requirement:	[] Rule [X] Other
4. Monitor Information: Manufacturer: Rosemount Model Number: 1151DP4S22M1B1 Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters): Measures steam flow on Boiler No. 2.	

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

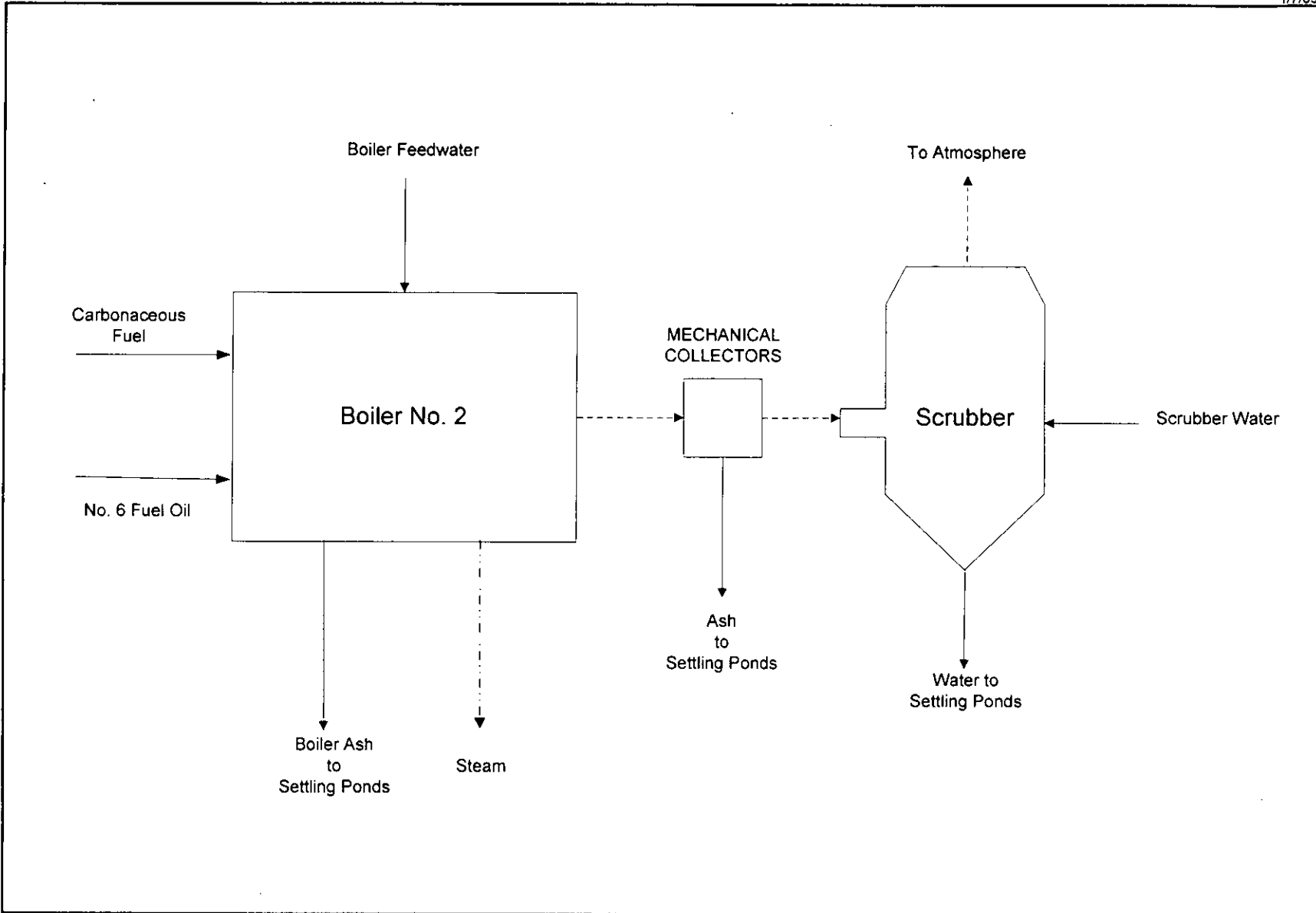
1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: <u>GSH-EU2-J1</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification <input checked="" type="checkbox"/> Attached, Document ID: <u>GSH-EU1-J2</u> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment <input checked="" type="checkbox"/> Attached, Document ID: <u>GSH-EU2-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 <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Identification of Additional Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
15. Acid Rain Part Application (Hard-copy Required) <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ <input type="checkbox"/> Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) Attached, Document ID: _____ <input type="checkbox"/> Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

ATTACHMENT GSH-EU2-J1

PROCESS FLOW DIAGRAM



Attachment GSH-EU2-J1
Process Flow Diagram

Process Area: Boiler No. 2

Sugar Cane Growers Cooperative of Florida

Latest Revision Date: 1/7/2003

Process Flow Legend:	
Solid / Liquid	—————>
Gas	- - - - ->
Steam	- - - - ->



ATTACHMENT GSH-EU2-J3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

**ATTACHMENT GSH-EU2-J3
DETAILED DESCRIPTION OF CONTROL EQUIPMENT**

**SUGAR CANE GROWERS COOPERATIVE OF FLORIDA
BOILER NO. 2**

Control equipment: Mechanical collectors followed by one wet impingement turbulaire scrubber, custom design.

Scrubbing Liquid:	Water
Inlet Water Pressure (psi)	0-100
Pressure Drop Across Scrubber (Inches H ₂ O)	0-15

ATTACHMENT A

1.0 PROJECT DESCRIPTION

Sugar Cane Growers Cooperative of Florida, Inc. (SCGCF) operates a sugar mill located on West Sugar House Road in Belle Glade, Palm Beach County, Florida. At the mill, sugar cane is ground to remove the sugar cane juice. The remaining fibrous material is called bagasse and is burned as boiler fuel to provide steam and heating requirements for the mill. SCGCF operates six bagasse/residue/oil-fired boilers ranging in capacity from 125,000 to 300,000 pounds per hour (lb/hr) of steam production.

Bagasse residue, a byproduct of the processing of bagasse into furfural, is permitted to be burned in the boilers. However, the furfural producing chemical company (Great Lakes Chemical) located next to SCGCF has been shutdown, and therefore SCGCF is currently not burning bagasse residue in the boilers. Nevertheless, SCGCF may find alternative sources of bagasse residue in the future, and therefore desires to maintain residue as a permitted fuel.

Boiler Nos. 1 and 2 are currently operating under Title V permit no. 0990026-004-AV (refer to Attachment B for pertinent excerpts). Boiler Nos. 1 and 2 are identical boilers that were constructed in 1963 and were manufactured by Riley. Each has a traveling grate. The grate is the component of the boiler where combustion of the bagasse occurs and ash is removed. As documented in the Title V permit for the SCGCF mill, the maximum steam rate for each boiler is 175,000 lb/hr (24-hour average). The maximum heat input to each boiler is 334.1 million British thermal units per hour (MMBtu/hr)(24-hour average), based on bagasse firing.

The sugar cane crop season typically lasts from mid-October through Mid-March, but may last through April depending upon weather conditions. During the crop season, the boilers operate nearly continuously. For economic reasons, SCGCF's goal is to process the sugar cane in the fewest amount of days, to reduce operating costs and to achieve the best yield. The boilers are then shut down and maintenance is performed during the off-season.

SCGCF intends to make changes to certain component parts of Boiler No. 1 and Boiler No.2 at its Belle Glade sugar mill. Inspection of these boilers indicated damage to the grates has occurred, as well as to the concrete supports and refractory near the grates. SCGCF is planning on removing the existing traveling grates and replacing the grates with a water-cooled pinhole grates. In order to gain the full benefits of the water-cooled pinhole grate design, related changes to the combustion air systems will also be performed.

The existing traveling grates on Boiler Nos. 1 and 2 are relatively high maintenance items that are also susceptible to damage from the heat of the furnace. Two years ago, SCGCF performed a replacement of the dumping grate on Boiler No. 3 with a water-cooled pinhole grate. Coupled with modifications to the combustion air system, this replacement proved to be very successful. The water-cooled pinhole grate requires almost no maintenance and is not susceptible to damage from the heat of the furnace. Emission testing on Boiler No. 3 prior to and after the replacement demonstrated no increase in emissions from the boiler. As explained below, the replacement of the grates on Boiler Nos. 1 and 2 are not expected to result in an increase in emissions from the boilers.

A water-cooled grate is protected by the natural water circulation in the boiler. However, this feature has a more significant advantage: more effective distribution of the forced draft air. The existing traveling grates depend on forced draft air to keep the components of the grate from being damaged. Accumulation of unburned bagasse on top of the grate can prevent the airflow through that portion of the grate and the grate can be damaged. The traveling grate needs a large percentage of the total forced draft air to be supplied under the grate, in order to keep the grate working properly. A water-cooled grate does not depend on the forced draft air for any cooling since it is cooled by the natural circulation of the boiler feedwater. Therefore, the water-cooled grate allows for better distribution of the forced draft air inside the furnace, and the temperature of the forced draft air can be increased above the temperature limits of the traveling grate (about 400 degrees F). Most of the forced draft air can be used as overfire air. More overfire air results in a better mixing zone above the furnace. This promotes a faster drying of the bagasse (about 50-percent moisture) and it results in a more complete combustion.

As a result of the grate replacement, SCGCF will improve the overfire air distribution system on Boiler Nos. 1 and 2 to take full advantage of the new pinhole grate design. The improvements will consist of the addition of one small fan on each boiler, in order to redistribute the underfire and over fire air. SCGCF's Boiler No. 8 has a modern overfire air distribution system, and Boiler No. 3's new overfire air distribution system is more like Boiler No. 8 after the recent replacement.

The maximum steam rate of Boiler Nos. 1 and 2 will not change as a result of the grate replacements. However, with more complete combustion, less fuel is expected to be burned to achieve the same steam rate. The furnace volume will not change nor will the temperature of the air leaving the boilers. There will be no changes to the air preheaters on the boilers.

The cost to replace the existing grate and to improve the air distribution system on each boiler is estimated at \$200,000 per boiler. This cost consists of approximately \$115,000 for the new grate, \$57,000 for concrete and refractory (brick lining) work, and \$28,000 for the new fan. All these costs are "expensed" (i.e., are paid for out of current operating budget), except for the fans, which will be "capital" costs. Thus, 86 percent of total cost will be expensed while only 14 percent of the cost will be capitalized.

By comparison, the cost to repair the existing traveling dumping grate on each boiler is approximately \$175,000 (per boiler), so the cost is roughly the same in either case. Historical maintenance and repair costs on the Boiler Nos. 1 and 2 traveling grates have averaged approximately \$50,000/yr per boiler over the last 5 years.

The cost of an entirely new boiler of comparable size to Boiler No. 1 or Boiler No. 2 is estimated at between \$6 million and \$8 million per boiler. Therefore, the total planned project represents only 3.3 percent or less of a new boiler cost, and the grate portion of the project represents only 1.4 percent or less of the cost of a new boiler.

SCGCF is planning on implementing the proposed changes to the boiler during the 2003 off-season.

2.0 AIR EMISSIONS

SCGCF believes that removing the existing traveling grates and replacing them with the water-cooled pin-hole grate design with combustion air changes will not increase emissions from Boiler No. 1 or Boiler No. 2. Emission test data from Boiler No. 3 prior to and after its recent grate replacement demonstrated no increase in emissions from Boiler No. 3 due to the replacement. Test data from the last ten years for the existing SCGCF Boiler Nos. 1 and 2 are presented in Tables 1 and 2 (does not include the current crop season test results).

Particulate matter (PM) emissions from Boiler Nos. 1 and 2 are not expected to increase after the proposed changes are implemented. The boilers are expected to have better combustion after the change. Less fuel will be required to produce the same amount of steam and less PM emissions will be generated from the boiler. The Boiler No. 3 grate replacement project demonstrated that PM emissions should not increase due to switching to a water-cooled pinhole grate. PM emissions from Boiler No. 1 over the last ten years have averaged 0.15 pounds per million British thermal unit

(lb/MMBtu). Individual test runs ranged from 0.10 to 0.21 lb/MMBtu. The PM permit limit for Boiler No. 1 is 0.25 lb/MMBtu. PM emissions from Boiler No. 2 over the last ten years have averaged 0.18 lb/MMBtu. Individual test runs ranged from 0.12 to 0.26 lb/MMBtu. The PM permit limit for Boiler No. 2 is 0.25 lb/MMBtu.

VOC and CO emissions are not expected to increase after the changes. Combustion will improve and better control over underfire and overfire air will be realized. VOC and CO emissions from Boiler No. 3 can be used as an indicator of VOC and CO emissions from Boiler Nos. 1 and 2 after the proposed changes are implemented. The Boiler No. 3 grate replacement project demonstrated that VOC and CO emissions should not increase due to switching to a water-cooled pinhole grate. Historic CO emissions test data from Boiler Nos. 1 and 2 are very limited. VOC emissions from Boiler No. 1 over the last five years have averaged 0.074 lb/MMBtu (as carbon). Individual test runs ranged from 0.0 to 0.216 lb/MMBtu. VOC emissions from Boiler No. 2 over the last five years have averaged 0.121 lb/MMBtu. Individual test runs ranged from 0.008 to 0.265 lb/MMBtu (as carbon). The VOC permit limit for Boiler Nos. 1 and 2 is 1.5 lb/MMBtu, but SCGCF is proposing to lower the VOC limits on these boilers to 0.7 lb/MMBtu.

Nitrogen oxides (NO_x) emissions are also not expected to increase after Boiler Nos. 1 and 2 are changed. With the replaced grate and improved combustion air system, combustion in the boilers will be more staged and there will be more control of the overfire and underfire air compared to current conditions. As shown in the test data for SCGC Boiler No. 3, NO_x emissions from this boiler after the grate replacement are lower than the NO_x emissions prior to the grate replacement, indicating no increase will occur in emissions from Boiler Nos. 1 and 2.

3.0 REGULATORY APPLICABILITY

SCGCF believes that the proposed changes to Boiler Nos. 1 and 2 do not constitute a "modification" or require prevention of significant deterioration (PSD) review. The proposed work constitutes a routine maintenance, replacement, and repair of component parts of the boiler, and is therefore not a "physical change" as defined in the regulations. No increase in actual emissions is expected due to the change.

In May 2000, the U.S. Environmental Protection Agency (EPA) rendered a PSD applicability decision for Detroit Edison. In this case, EPA described the general criteria for determining what activities constitute routine maintenance, replacement and repair. However, EPA stressed that the

decision is case-by-case based on the relevant facts of the case. The attached table (Attachment C) compares the proposed Boiler Nos. 1 and 2 project with the EPA criteria. As shown, the boiler projects meets the EPA criteria.

Historically, maintenance on Boiler Nos. 1 and 2 grates has been performed during the summer off-season (when the units are not operated). As a result, availability of the boilers during the sugar cane processing season has not been affected. Replacement with the water-cooled pinhole grates, and associated less maintenance, will therefore not affect availability or operating hours for Boiler Nos. 1 and 2. The SCGCF mill processes an amount of cane during the crop season that is dependent upon the amount of sugar cane harvested from the fields. There are six bagasse/oil/residue-fired boilers that support this operation. If a particular boiler has to be shutdown for repair or maintenance during the crop season, the sugar cane production rate is adjusted until the boiler becomes available again. As a result, any increased or decreased availability of Boiler Nos. 1 or 2 in itself will not cause overall air emissions from the mill to increase.

In summary, the proposed changes to Boiler Nos. 1 and 2 constitute routine maintenance, replacement and repair, and are not expected to increase emissions of any regulated pollutant. Therefore, the changes do not constitute a "modification" or trigger PSD review. This conclusion has been confirmed by the FDEP Bureau of Air Regulation in Tallahassee for the previous Boiler No. 3 grate replacement.

To further demonstrate that the proposed projects will not increase pollutant emissions, SCGCF proposes to conduct compliance tests on Boiler Nos. 1 and 2 after the new grates are installed, and compare the results with previous compliance test results using Appendix C of 40 CFR Part 60. Appendix C provides a statistical method of determining if emissions to the atmosphere have increased due to a particular change. The compliance tests will be performed for PM, NO_x, and VOC.

Table 1. Emission Tests Performed on Boiler No. 1 at Sugar Cane Growers Cooperative

Unit	Boiler Type	Test Date	Air Flow Rate (SCFMD)	Steam Rate (lb/hr)	Heat Input Rate (MMBtu/hr)	Bagasse Burning Rate (TPH)	PM Emissions (EPA Method 5)		CO Emissions (EPA Method 10)		NO _x Emissions (EPA Method 7E)		VOC Emissions as Reported (EPA Method 18/25A)		
							lb/hr	lb/MMBtu	lb/hr	lb/MMBtu	lb/hr	lb/MMBtu	lb/hr	lb/MMBtu	Basis
Boiler 1	Traveling Grate	03/16/93	69,003	130,500	220.45	30.62			126.23	0.573	51.41	0.233			
Boiler 1	Traveling Grate	03/16/93	70,229	128,000	216.13	30.02			166.56	0.771	51.82	0.240			
Boiler 1	Traveling Grate	03/16/93	69,121	125,538	212.07	29.45			112.10	0.529	51.99	0.245			
Boiler 1	Traveling Grate	12/07/93	60,949	134,000	258.96	35.97	36.59	0.141	449.86	1.737	45.26	0.175			
Boiler 1	Traveling Grate	12/07/93	58,373	133,714	258.34	35.88	34.53	0.134	269.50	1.043	47.80	0.185			
Boiler 1	Traveling Grate	11/30/94	61,105	131,496	212.89	29.57	29.70	0.133							
Boiler 1	Traveling Grate	11/30/94	59,225	131,702	213.42	29.64	29.77	0.133							
Boiler 1	Traveling Grate	11/30/94	58,618	129,684	209.75	29.13	31.48	0.143							
Boiler 1	Traveling Grate	11/22/95	66,631	127,111	215.40	29.92	42.20	0.196							
Boiler 1	Traveling Grate	11/22/95	67,050	128,621	217.96	30.27	20.90	0.096							
Boiler 1	Traveling Grate	11/22/95	68,493	130,743	221.55	30.77	22.28	0.101							
Boiler 1	Traveling Grate	11/20/96	63,946	130,093	220.90	30.68	36.89	0.169							
Boiler 1	Traveling Grate	11/20/96	68,093	132,110	224.40	31.17	44.18	0.197							
Boiler 1	Traveling Grate	11/20/96	67,732	132,857	225.00	31.25	46.16	0.205							
Boiler 1	Traveling Grate	11/19/97	64,886	125,070	241.64	33.56	40.44	0.167			43.59	0.180	11.01	0.046	As Carbon
Boiler 1	Traveling Grate	11/19/97	68,452	126,957	245.20	34.06	43.00	0.175			49.08	0.200	2.87	0.012	As Carbon
Boiler 1	Traveling Grate	11/19/97	66,247	125,217	241.44	33.53	38.51	0.160			48.20	0.200	1.39	0.006	As Carbon
Boiler 1	Traveling Grate	11/18/98	65,314	123,478	241.32	33.52	39.83	0.165			39.85	0.165	16.11	0.067	As Carbon
Boiler 1	Traveling Grate	11/18/98	65,399	116,471	226.38	31.44	38.65	0.171			36.45	0.161	1.30	0.006	As Carbon
Boiler 1	Traveling Grate	11/18/98	58,801	120,000	232.67	32.32	10.58	0.174			28.75	0.124	0.42	0.002	As Carbon
Boiler 1	Traveling Grate	12/09/99	56,310	139,412	270.74	37.60	42.61	0.157			31.10	0.060	100.93	0.193	As Carbon
Boiler 1	Traveling Grate	12/09/99	61,472	141,176	274.47	38.12	47.42	0.173			34.55	0.070	106.92	0.216	As Carbon
Boiler 1	Traveling Grate	12/09/99	59,761	142,609	276.71	38.43	43.79	0.158			34.90	0.070	105.25	0.210	As Carbon
Boiler 1	Traveling Grate	11/15/00	73,772	120,000	232.18	32.25	31.36	0.135			38.22	0.165	10.56	0.046	As Carbon
Boiler 1	Traveling Grate	11/15/00	71,585	121,765	236.19	32.80	35.92	0.152			24.92	0.105	4.28	0.018	As Carbon
Boiler 1	Traveling Grate	11/15/00	71,101	120,870	234.79	32.61	33.38	0.142			17.65	0.075	0.00	0.000	As Carbon
Boiler 1	Traveling Grate	11/14/01	65,459	127,059	246.84	34.28	32.83	0.133			3.75	0.015	46.17	0.187	As Carbon
Boiler 1	Traveling Grate	11/14/01	65,301	115,833	224.78	31.22	28.54	0.127			16.25	0.072	13.29	0.059	As Carbon
Boiler 1	Traveling Grate	11/14/01	65,000	111,045	215.18	29.89	25.64	0.119			20.36	0.095	10.52	0.049	As Carbon
	Number of Runs		29	29	29	29	26	26	5	5	20	20	15	15	
	MEAN		65,084	127,694	233.37	32.41	34.89	0.152	224.85	0.930	35.80	0.142	28.73	0.074	
	MINIMUM		56,310	111,045	209.75	29.13	10.58	0.096	112.10	0.529	3.75	0.015	0.00	0.000	
	MAXIMUM		73,772	142,609	276.71	38.43	47.42	0.205	449.86	1.737	51.99	0.245	106.92	0.216	
	STD DEVIATION		4,521	7,326	19.39	2.69	8.66	0.027	140.05	0.495	13.73	0.068	40.75	0.082	
	95% CL OF RUNS		74,126	142,346	272.15	37.80	52.21	0.207	504.96	1.920	63.25	0.278	110.24	0.239	
	GEOMETRIC MEAN		64,930	127,490	232.62	32.31	33.52	0.150	195.52	0.842	31.64	0.120	#NUM!	#NUM!	

Note:

lb/hr = pounds per hour.

lb/MMBtu = pounds per million British thermal units.

lb/ton = pounds per ton.

MMBtu/hr = million British thermal units per hour.

TPH = tons per hour.

¹ Assumed 3,600 Btu/lb average heat content for wet bagasse, except where noted.

Table 2. Emission Tests Performed on Boiler No. 2 at Sugar Cane Growers Cooperative

Unit	Boiler Type	Test Date	Air Flow Rate (SCFMD)	Steam Rate (lb/hr)	Heat Input Rate (MMBtu/hr)	Bagasse Burning Rate (TPH)	PM Emissions (EPA Method 5)		CO Emissions (EPA Method 10)		NO _x Emissions (EPA Method 7E)		VOC Emissions as Reported (EPA Method 18/25A)		
							lb/hr	lb/MMBtu	lb/hr	lb/MMBtu	lb/hr	lb/MMBtu	lb/hr	lb/MMBtu	Basis
Boiler 2	Traveling Grate	03/23/93	86,372	116,800	196.88	27.34			53.85	0.270	53.83	0.270			
Boiler 2	Traveling Grate	03/23/93	84,598	124,328	208.87	29.01			81.51	0.390	47.27	0.230			
Boiler 2	Traveling Grate	03/23/93	84,238	121,600	204.29	28.37			65.00	0.320	47.68	0.230			
Boiler 2	Traveling Grate	12/08/93	61,096	132,491	255.93	35.55	39.36	0.154	806.52	3.151	37.52	0.147			
Boiler 2	Traveling Grate	12/08/93	65,272	85,719	165.69	23.01	31.89	0.192	382.16	2.306	39.29	0.237			
Boiler 2	Traveling Grate	12/08/93	66,583	127,418	246.15	34.19	37.43	0.152	998.84	4.058	42.25	0.172			
Boiler 2	Traveling Grate	12/01/94	70,551	126,000	214.22	29.75	34.90	0.163							
Boiler 2	Traveling Grate	12/01/94	72,545	127,448	216.68	30.09	37.30	0.172							
Boiler 2	Traveling Grate	12/01/94	69,574	131,586	223.63	31.06	36.88	0.165							
Boiler 2	Traveling Grate	12/15/94	71,979	113,445	198.45	27.56			208.68	1.052	53.77	0.271			
Boiler 2	Traveling Grate	12/15/94	65,580	119,231	230.48	32.01			250.00	1.085	44.67	0.194			
Boiler 2	Traveling Grate	12/15/94	64,251	121,500	234.74	32.60			232.00	0.988	47.64	0.203			
Boiler 2	Traveling Grate	11/28/95	66,913	123,429	208.92	29.02	25.68	0.123							
Boiler 2	Traveling Grate	11/28/95	67,660	128,400	217.33	30.18	31.29	0.144							
Boiler 2	Traveling Grate	11/28/95	70,364	131,821	223.29	31.01	29.17	0.131							
Boiler 2	Traveling Grate	11/22/96	66,660	123,042	209.00	29.03	36.30	0.174							
Boiler 2	Traveling Grate	11/22/96	63,500	133,859	227.40	31.58	41.37	0.182							
Boiler 2	Traveling Grate	11/22/96	64,935	133,622	228.10	31.68	41.47	0.182							
Boiler 2	Traveling Grate	11/20/97	68,217	123,429	238.62	33.14	60.03	0.252			36.96	0.155	44.35	0.186	As Carbon
Boiler 2	Traveling Grate	11/20/97	67,469	118,442	228.70	31.76	44.58	0.195			40.44	0.177	15.59	0.068	As Carbon
Boiler 2	Traveling Grate	11/20/97	69,974	125,455	241.92	33.60	49.65	0.205			38.54	0.159	7.79	0.033	As Carbon
Boiler 2	Traveling Grate	11/19/98	65,875	121,739	234.51	32.57	55.03	0.235			30.97	0.132	58.35	0.249	As Carbon
Boiler 2	Traveling Grate	11/19/98	63,498	136,901	263.72	36.63	47.66	0.181			29.66	0.112	9.14	0.035	As Carbon
Boiler 2	Traveling Grate	11/19/98	65,441	123,692	238.48	33.12	46.13	0.193			34.07	0.143	32.45	0.136	As Carbon
Boiler 2	Traveling Grate	12/08/99	67,341	118,783	229.70	31.90	50.36	0.219			27.25	0.119	41.38	0.180	As Carbon
Boiler 2	Traveling Grate	12/08/99	66,385	116,291	224.70	31.21	57.19	0.255			26.04	0.116	41.54	0.185	As Carbon
Boiler 2	Traveling Grate	12/08/99	66,206	119,065	229.80	31.92	40.91	0.178			38.67	0.168	44.12	0.192	As Carbon
Boiler 2	Traveling Grate	12/08/99	64,654	119,304	230.78	32.05	57.90	0.251			33.77	0.146	61.20	0.265	As Carbon
Boiler 2	Traveling Grate	11/16/00	69,691	118,261	229.68	31.90	36.89	0.161			14.71	0.064	3.29	0.014	As Carbon
Boiler 2	Traveling Grate	11/16/00	70,127	121,739	237.01	32.92	43.63	0.184			14.19	0.060	1.87	0.008	As Carbon
Boiler 2	Traveling Grate	11/16/00	70,389	126,000	245.29	34.07	43.73	0.178			16.03	0.065	5.48	0.022	As Carbon
Boiler 2	Traveling Grate	11/16/01	75,613	121,714	237.30	32.96	33.20	0.140			36.32	0.153	38.06	0.160	As Carbon
Boiler 2	Traveling Grate	11/16/01	70,137	121,644	237.18	32.94	33.45	0.141			30.87	0.130	19.99	0.084	As Carbon
Boiler 2	Traveling Grate	11/16/01	74,721	120,870	235.12	32.66	32.29	0.137			30.17	0.128	28.33	0.120	As Carbon
	Number of Runs		34	34	34	34	28	28	9	9	25	25	16	16	
	MEAN		69,365	122,796	226.25	31.42	41.27	0.180	342.06	1.513	35.70	0.159	28.31	0.121	
	MINIMUM		61,096	85,719	165.69	23.01	25.68	0.123	53.85	0.270	14.19	0.060	1.87	0.008	
	MAXIMUM		86,372	136,901	263.72	36.63	60.03	0.255	998.84	4.058	53.83	0.271	61.20	0.265	
	STD DEVIATION		5,898	8,605	18.48	2.57	9.09	0.036	338.15	1.355	10.86	0.058	19.69	0.085	
	95% CL OF RUNS		81,161	140,007	263.22	36.56	59.46	0.253	1018.37	4.224	57.42	0.276	67.69	0.292	
	GEOMETRIC MEAN		69,140	122,465	225.47	31.32	40.34	0.177	216.91	1.013	33.77	0.148	19.10	0.081	

Note:

lb/hr = pounds per hour.

lb/MMBtu = pounds per million British thermal units.

lb/ton = pounds per ton.

MMBtu/hr = million British thermal units per hour.

TPH = tons per hour.

¹ Assumed 3,600 Btu/lb average heat content for wet bagasse, except where noted.

ATTACHMENT B

BOILER NOS. 1 AND 2 EXISTING PERMIT CONDITIONS

Section III. Emissions Unit and Conditions.

Subsection A. This section addresses the following emissions unit.

E.U.

ID No. Brief Description

-001 Boiler No. 1

Boiler No. 1 is a traveling grate boiler fired with carbonaceous fuel (bagasse and residue) and fuel oil. It has a maximum capacity of 175,000 pounds per hour of steam (24-hour average).

Particulate emissions are controlled by a Dust Collector followed by a Joy Turbulaire Type D, impingement wet scrubber.

{Permitting note(s): This emission unit is regulated under Rule 62-210.200, F.A.C. (Potential to Emit); Rule 62-213.440(1)(b), F.A.C. (Periodic Monitoring); Rule 62-296.570, F.A.C. (Reasonably Available Control Technology for NO_x and VOC; Rule 62-296.410, F.A.C. (Carbonaceous Fuel Burning Equipment.)}

The following specific conditions apply to the emissions unit listed above:

Essential Potential to Emit (PTE) Parameters

A.1. Permitted Capacity. There is no limit on operating capacity of this unit. The operating steam production rate of 175,000 pounds per hour (24-hour average) at 400 psig and 585°F (or thermodynamically equivalent) is used to establish a 100% load for testing purposes. On-spec used oil can be fired at a rate not to exceed 6.04 MMBtu per hour (annual average).

[Rules 62-4.160(2) and 62-210.200 (PTE), F.A.C., and Construction Permit AC50-2044A dated 2/10/75]

A.2. Methods of Operation - Boiler No. 1 is fired with carbonaceous fuel (bagasse and residue), No. 6 residual oil, and small quantities of on-spec used oil. Small quantities of on-spec used oil contaminated soil that is generated on-site can be burned, as well as small quantities of hazardous materials under the BIF rule. (See Specific Condition H.8. of Subsection H. Common Conditions)

[Rule 62-213.410, F.A.C.]

A.3. Hours of Operation. The hours of operation for this emissions unit shall not exceed 7296 hours/year.

[Rules 62-4.160(2) and 62-210.200 (PTE), F.A.C.]

Emission Limitations and Standards

A.4. Visible Emissions - Number 1.5 on the Ringelmann Chart (30 percent opacity) except that a density of Ringelmann Number 2 (40 percent opacity) is permissible for not more than two minutes in any one hour.

[Rule 62-296.410(1)(b)1., F.A.C.]

A.5. Particulate Matter - 0.25 pounds per million Btu of heat input of carbonaceous fuel plus 0.1 pounds per million Btu heat input of fossil fuel.

[Construction Permit AC50-42476\PSD-FL-077 dated 10/28/81]

A.6. Not Federally Enforceable. Volatile Organic Compounds (VOC) - Emissions of VOC from Boiler No. 1 shall not exceed 1.5 pounds per million Btu heat input.

[Rules 62-296.570(4)(b)6. and 62-296.570(2), F.A.C., voluntary limit proposed by permittee, and AO50-191721 permit amendment dated 1/27/97]

A.7. Not Federally Enforceable. Nitrogen Oxides (NO_x) - Emissions of NO_x from Boiler No. 1 shall not exceed 0.45 pounds per million Btu heat input.

[Rules 62-296.570(4)(b)6. and 62-296.570(2), F.A.C., voluntary limit proposed by permittee, and AO50-191721 permit amendment dated 1/27/97]

A.8. Sulfur Dioxide (SO₂) - Boiler No. 1 is permitted to burn No.6 (residual) fuel oil and on-spec used oil with a maximum sulfur content of 2.4% by weight. The total fuel oil to Boilers 1 through 5 shall be measured and logged every 8 hours to comply with the daily SO₂ emission limit.

[Construction Permits AC50-2044A dated 2/10/75 and AC50-42476\PSD-FL-077 dated 10/28/81]

A.9. Compliance with the emission limits of Specific Conditions A.5 through A.7. shall be determined by computing the heat input from the steam output (pounds per hour) and net steam enthalpy, assuming a thermal efficiency of 55 percent (with bagasse and 62.5% with residue or fuel oil) for Boiler No. 1.

[Rule 62-4.070(3), F.A.C.]

Test Methods and Procedures

A.10. This emission unit shall be tested annually for the following pollutants:

1. Visible emissions, VE
2. Particulate matter, PM
3. Nitrogen Oxides, NO_x
4. Volatile Organic Compounds, VOC

[Rule 62-297.310(7)(a)4., F.A.C.]

A.11.1. All visible emissions tests performed pursuant to the requirements of this permit shall comply with the following provisions:

- a. The test method for visible emissions shall be EPA Reference Method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C.
- b. Test procedures shall meet all applicable requirements of Chapter 62-297, F.A.C.
- c. The required minimum period of observation for an EPA Reference Method 9 compliance test shall be sixty (60) minutes. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur.

[Rule 62-297.310(4) (a) 2., F.A.C.]

A.11.2. Compliance test for particulate matter emissions shall be determined using EPA Reference Methods 1, 2, 3, 4, and 5, described in 40 CFR 60, Appendix A. Emissions units incorporating a scrubber for control of particulate matter shall use an acetone wash.

[Rule 62-297.401(1 through 5), F.A.C.]

A.11.3. For this facility, compliance with fuel oil sulfur limits may be determined based on:

A) a certification from the fuel supplier

where

Fuel supplier certification shall include the following information:

(i) The name of the oil supplier; and (ii) A statement from the oil supplier listing the actual sulfur content of the oil and the place where the sample was collected, or

[Rule 62-297.310(7)(c), F.A.C.]

B) Based on analysis by one of the following methods: ASTM Method D 129-91, D 1552, D2622-94, D 4294-90 or comparable Department approved method. See Specific Condition **H.4.3.** of Subsection H. Common Conditions.

A.11.4. Compliance test for nitrogen oxide emissions shall be determined using EPA Reference Method 7 or 7E, described in 40 CFR 60, Appendix A.

[Rules 62-297.401(7) and 62-296.570, F.A.C., and AO50-191721 permit amendment dated 1/27/97]

A.11.5. Compliance test for volatile organic compounds emissions shall be determined using EPA Reference Methods 25, or 25A, modified to incorporate a dilution system as approved by the Department under the provisions of Rule 62-297.620, F.A.C. If EPA Method 25A is employed, EPA Reference Method 18 may be used to quantify and subtract the methane fraction in the exhaust gases. Methods 25, 25A and 18 are described in 40 CFR 60, Appendix A.

[Rules 62-297.401(25) and 62-296.570, F.A.C., and AO50-191721 permit amendment dated 1/27/97]

Recordkeeping and Reporting Requirements

A.12.1. In order to document continuing compliance with Specific Conditions **A.1.**, **A.5.**, **A.8.**, records of the percent sulfur content of all fuel burned and the quantities of fuel burned shall be kept. The basis of these records of sulfur content shall be either as-shipped analyses from the vendor, analysis of shipments by the permittee, or in the case of on-site

blending, analyses of a fuel sample from the fuel storage tank(s) each time a shipment of fuel is received. These records shall be kept for a period of 5 years and shall be available to the department upon request.

[Rules 62-4.070(3) and 62-213.440(1)(b), F.A.C.]

A.12.2. A record shall be kept of the steam flow from the boiler to determine the heat input for the purpose of compliance with the emission limits in Specific Conditions No. **A.5.**, **A.6.**, and **A.7.**

[Rules 62-4.070(3) and 62-213.440(1)(b), F.A.C.]

Reasonable Assurances

A.13. The scrubber control system shall be equipped with instrumentation to monitor total pressure drop and inlet water pressure. Such instrumentation shall be properly maintained so as to be functional at all times.

[Rule 62-4.070(3), F.A.C.]

A.14. This emissions unit is also subject to Specific Conditions **H.1.** through **H.10.** contained in Subsection H. Common Conditions.

Section III. Emissions Unit and Conditions.

Subsection B. This section addresses the following emissions unit.

E.U.

<u>ID No.</u>	<u>Brief Description</u>
---------------	--------------------------

-002	Boiler No. 2
------	--------------

Boiler No. 2 is a traveling grate boiler fired with carbonaceous fuel (bagasse and residue) and fuel oil. It has a maximum capacity of 175,000 pounds per hour of steam (24-hour average).

Particulate emissions are controlled by a Dust Collector followed by 2 parallel Joy Turbulaire Type D impingement wet scrubbers.

{Permitting note(s): This emission unit is regulated under Rule 62-210.200, F.A.C. (Potential to Emit); Rule 62-213.440(1)(b), F.A.C. (Periodic Monitoring); Rule 62-296.570, F.A.C. (Reasonably Available Control Technology for NO_x and VOC; Rule 62-296.410, F.A.C. (Carbonaceous Fuel Burning Equipment.)}

The following specific conditions apply to the emissions unit listed above:

Essential Potential to Emit (PTE) Parameters

B.1. Permitted Capacity. There is no limit on operating capacity of this unit. The operating steam production rate of 175,000 pounds per hour (24-hour average) at 400 psig and 585°F (or thermodynamically equivalent) is used to establish a 100% load for testing purposes. On-spec used oil can be fired at a rate not to exceed 6.04 MMBtu per hour (annual average).
[Rules 62-4.160(2) and 62-210.200 (PTE), F.A.C.]

B.2. Methods of Operation - Boiler No. 2 is fired with carbonaceous fuel (bagasse and residue), No. 6 residual oil, and small quantities of on-spec used oil. Small quantities of on-spec used oil contaminated soil that is generated on-site can be burned, as well as small quantities of hazardous materials under the BIF rule. (See Specific Condition **H.8.** of Subsection H. Common Conditions)
[Rule 62-213.410, F.A.C.]

B.3. Hours of Operation. The hours of operation for this emissions unit shall not exceed 7296 hours/year.
[Rules 62-4.160(2) and 62-210.200 (PTE), F.A.C.]

Emission Limitations and Standards

B.4. Visible Emissions - Number 1.5 on the Ringelmann Chart (30 percent opacity) except that a density of Ringelmann Number 2 (40 percent opacity) is permissible for not more than two minutes in any one hour.
[Rule 62-296.410(1)(b)1., F.A.C.]

B.5. Particulate Matter - 0.25 pounds per million Btu of heat input of carbonaceous fuel plus 0.1 pounds per million Btu heat input of fossil fuel.
[Construction Permit AC50-42476\PSD-FL-077 dated 10/28/81]

B.6. Not Federally Enforceable. Volatile Organic Compounds (VOC) - Emissions of VOC from Boiler No. 2 shall not exceed 1.5 pounds per million Btu heat input.

[Rules 62-296.570(4)(b)6. and 62-296.570(2), F.A.C., voluntary limit proposed by permittee, and AO50-191731 permit amendment dated 1/27/97]

B.7. Not Federally Enforceable. Nitrogen Oxides (NO_x) - Emissions of NO_x from Boiler No. 2 shall not exceed 0.45 pounds per million Btu heat input. Emissions of NO_x from burning residue shall not exceed 0.65 lb/MMBtu heat input.

[Rules 62-296.570(4)(b)6. and 62-296.570(2), F.A.C., voluntary limit proposed by permittee, and AO50-191731 permit amendment dated 1/27/97]

B.8. Sulfur Dioxide (SO₂) - Boiler No. 2 is permitted to burn No.6 (residual) fuel oil and on-spec used oil with a maximum sulfur content of 2.4% by weight. The total fuel oil to Boilers 1 through 5 shall be measured and logged every 8 hours to comply with the daily SO₂ emission limit.

[Construction Permits AC50-2045A dated 2/10/75 and AC50-42476\PSD-FL-077 dated 10/28/81]

B.9. Compliance with the emission limits of Specific Conditions B.5 through B.7. shall be determined by computing the heat input from the steam output (pounds per hour) and net steam enthalpy, assuming a thermal efficiency of 55 percent (with bagasse and 62.5% with residue or fuel oil) for Boiler No. 2.

[Rule 62-4.070(3), F.A.C.]

Test Methods and Procedures

B.10. This emission unit shall be tested annually for the following pollutants:

1. Visible emissions, VE
2. Particulate matter, PM
3. Nitrogen Oxides, NO_x
4. Volatile Organic Compounds, VOC

[Rule 62-297.310(7)(a)4., F.A.C.]

B.11.1. All visible emissions tests performed pursuant to the requirements of this permit shall comply with the following provisions:

- a. The test method for visible emissions shall be EPA Reference Method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C.
- b. Test procedures shall meet all applicable requirements of Chapter 62-297, F.A.C.

[Rule 62-296.320(4)(b)4.a., F.A.C.]

- c. The required minimum period of observation for an EPA Reference Method 9 compliance test shall be sixty (60) minutes. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur.

[Rule 62-297.310(4) (a) 2., F.A.C.]

B.11.2. Compliance test for particulate matter emissions shall be determined using EPA Reference Methods 1, 2, 3, 4, and 5, described in 40 CFR 60, Appendix A. Emissions units incorporating a scrubber for control of particulate matter shall use an acetone wash.

[Rule 62-297.401 (1 through 5), F.A.C.]

B.11.3. For this facility, compliance with fuel oil sulfur limits may be determined based on:

A) certification from the fuel supplier

where

Fuel supplier certification shall include the following information:

- (i) The name of the oil supplier; and
- (ii) A statement from the oil supplier listing the actual sulfur content of the oil and the place where the sample was collected, or

[Rule 62-297.310(7)(c), F.A.C.]

B) Based on analysis by one of the following methods: ASTM Method D 129-91, D1552, D2622-94, D 4294-90 or comparable Department approved method. See Specific Condition **H.4.3.** of Subsection H. Common Conditions.

B.11.4. Compliance test for nitrogen oxide emissions shall be determined using EPA Reference Method 7 or 7E, described in 40 CFR 60, Appendix A.

[Rules 62-297.401(7) and 62-296.570, F.A.C., and AO50-191731, amendment dated 1/27/97]

B.11.5. Compliance test for volatile organic compounds emissions shall be determined using EPA Reference Methods 25, or 25A, modified to incorporate a dilution system as approved by the Department under the provisions of Rule 62-297.620, F.A.C. If EPA Method 25A is employed, EPA Reference Method 18 may be used to quantify and subtract the methane fraction in the exhaust gases. Methods 25, 25A and 18 are described in 40 CFR 60, Appendix A.

[Rules 62-297.401(25) and 62-296.570, F.A.C., and AO50-191731 amendment dated 1/27/97]

Recordkeeping and Reporting Requirements

B.12.1. In order to document continuing compliance with Specific Conditions No. **B.1.**, **B.5.**, **B.8.**, records of the percent sulfur content of all fuel burned and the quantities of fuel burned shall be kept. The basis of these records of sulfur content shall be either as-shipped analyses from the vendor, analysis of shipments by the permittee, or in the case of on-site blending, analyses of a fuel sample from the fuel storage tank(s) each time a shipment of fuel is received. These records shall be kept for a period of 5 years and shall be available to the department upon request.

[Rules 62-4.070(3) and 62-213.440(1)(b), F.A.C., and Construction Permit AC50-2045A dated 2/10/75]

B.12.2. A record shall be kept of the steam flow from the boiler to determine the heat input for the purpose of compliance with the emission limits in Specific Condition Nos. **B.5**, **B.6**, and **B.7**.

[Rules 62-4.070(3) and 62-213.440(1)(b), F.A.C.]

Reasonable Assurances

B.13. Not Federally Enforceable. The scrubber control system shall be equipped with instrumentation to monitor total pressure drop and inlet water pressure. Such instrumentation shall be properly maintained so as to be functional at all times.

[Rule 62-4.070(3), F.A.C.]

B.14. This emissions unit is also subject to Specific Conditions **H.1.** through **H.10.** contained in Subsection H. Common Conditions.

ATTACHMENT C

Sugar Cane Growers Cooperative
Routine Maintenance and Grate Replacement for Boiler Nos. 1 and 2
January 6, 2003

Criteria Based on EPA May 23, 2000 Guidance	SCGC's Boiler Nos. 1 and 2—Grate Replacement
<p><u>Nature</u></p> <ol style="list-style-type: none"> 1. Whether major components of the facility are being modified or replaced. 2. Whether the unit is of considerable size, function, or importance to the operation of the facility. 3. Whether the source itself has characterized the change as non-routine. 4. Whether the change could be performed during full functioning of the facility or while it was in full working order. 5. Whether the materials, equipment and resources necessary to carry out the planned activity are already on site. 	<p>Replacement of the existing traveling grate on each boiler with a water-cooled pinhole grate; repair of concrete and refractory; and related changes to the combustion air system (addition of one fan to each boiler)</p> <ol style="list-style-type: none"> 1. The traveling grate itself is not a major component of the facility in terms of cost (less than 1.5 percent of total cost of a new boiler). The grate is small in size. The grate is removed, repaired and re-assembled annually. 2. Boiler Nos. 1 and 2 are two of six boilers at the facility. They are moderately sized boilers and are relatively important to the facility. 3. SCGC considers this project to be routine: the grates are removed, repaired and re-assembled on an annual basis. 4. Grate overhaul required annually and boiler shutdowns occur each year regardless (during off-season); will not affect boiler's availability during crop season. 5. Due to different grate design and addition of a fan on each boiler, additional parts are required.

Sugar Cane Growers Cooperative
Routine Maintenance and Grate Replacement for Boiler Nos. 1 and 2
January 6, 2003

Criteria Based on EPA May 23, 2000 Guidance	SCGC's Boiler Nos. 1 and 2--Grate Replacement
<p><u>Extent</u></p> <ol style="list-style-type: none"> 1. Whether an entire emissions unit will be replaced. 2. Whether the change will take significant time to perform. 3. Whether the collection of activities, taken as a whole, constitutes a non-routine effort, notwithstanding that individual elements could be routine. 4. Whether the change requires the addition of parts to existing equipment. 	<ol style="list-style-type: none"> 1. The entire Boiler No. 1 and Boiler No. 2 are not being replaced; only the grate on each boiler is being replaced. The grate is a component part of each boiler, but a relatively minor part in terms of cost. 2. The change can occur within a short amount of time, during the off-season when the boilers are already shut down. The grates will be replaced during the same time period when normal maintenance on the boilers is performed. 3. Grates on bagasse-fired boilers are dismantled, repaired, and re-installed annually (this is common for the industry). When traveling grates are damaged, the industry is tending towards replacement with the water-cooled, pin-hole design (design for newer boilers) rather than repairing the grate. The combustion air system is normally slightly changed to take advantage of the different grate design, but this is not essential. 4. The only additional parts required will be one small fan to be added to the combustion air system of each boiler; however, the fans are not essential to the replacement. The remaining parts will be replacement parts.
<p><u>Purpose</u></p> <ol style="list-style-type: none"> 1. Whether the purpose of the effort is to extend the useful life of the units; similarly, whether the source proposes to replace a unit at the end of its useful life. 2. Whether the modification will keep the unit operating in its present condition, or whether it will allow enhanced operation (e.g., will it permit increased capacity, operating rate, utilization, or fuel adaptability). 	<ol style="list-style-type: none"> 1. The existing grates could continue to be repaired on an annual basis, and therefore would not be a factor in determining the useful life of the existing boilers. As a result, the replacement and repair of the grates will have no effect upon the life of the unit. The grates are being replaced instead of repaired because the replacement cost is roughly equal to the cost for repair. The purpose is not to "extend the useful life" of the boilers. The useful life of the boilers is indefinite, due to the annual maintenance performed on the boilers. Conversely, without repair or replacement, the boiler's normal life would be prematurely shortened. 2. The water-cooled, pin-hole grates will have the same primary function as the existing grates. The replacement will not allow enhanced operation. Less fuel will be used to produce the same amount of steam; however, there is continuous economic incentive to decrease (not increase) boiler usage. The steam needs of the sugar mill remain the same, regardless of the boiler's efficiency in fuel use. Boiler Nos. 1 and 2 will operate as they have in the past; no increase in steam production capacity, operating rate, or utilization; decrease in fuel use; no increase in air emissions.

Sugar Cane Growers Cooperative
Routine Maintenance and Grate Replacement for Boiler Nos. 1 and 2
January 6, 2003

Criteria Based on EPA May 23, 2000 Guidance	SCGC's Boiler Nos. 1 and 2--Grate Replacement
<p><u>Frequency</u></p> <p>1. Whether the change is performed frequently in a typical unit's life</p>	<p>1. Grates on bagasse-fired boilers are dismantled, repaired, and re-installed annually (this is common for the industry). The industry is tending towards replacing traveling grates with water-cooled, pin-hole grates, and newer boilers use water-cooled, pin-hole grates (again, common for the industry). Boiler Nos. 1 and 2 grates have been dismantled, repaired, and re-installed annually since being constructed in 1963.</p>
<p><u>Cost</u></p> <p>1. Whether the change will be costly, both in absolute terms and relative to the cost of replacing the unit.</p> <p>2. Whether a significant amount of the cost of the change is included in the source's capital expenses, or whether the change can be paid for out of the operating budget (i.e., whether the costs are reasonably reflective of the costs originally projected during the source's or unit's design phase as necessary to maintain the day-to-day operation of the source)</p>	<p>1 & 2. Estimated cost is \$200,000 for entire project (for each boiler):</p> <ul style="list-style-type: none"> --\$28,000 for fan (capital) --\$115,000 for grate (operating expense) --\$57,000 for concrete and refractory (bricklining) work (operating expense). <p>Annual repairs on Boiler Nos. 1 and 2 grates have cost approximately \$50,000/yr on average over the last 5 years. This project is an attempt to reduce those maintenance expenses. The cost of this project, if the existing grates were retained, would be \$258,000. Of this total, \$144,000 would be for the grates repairs itself, while \$114,000 would be for refractory repair.</p> <ul style="list-style-type: none"> ▪ The cost of a comparable new boiler is estimated at \$6 to 8 million, based on a recent vendor quote, making the grate portion only 1.4% and the entire project 3.3% of the total replacement cost. ▪ 86% of the total costs are expenses being paid out of the current operating budget; 14% of the cost is to be capitalized.