Golder Associates Inc.

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

September 10, 2004

0437583

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

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

RE: UNITED STATES SUGAR CORPORATION (U.S. SUGAR) – CLEWISTON MILL
NEW WHITE SUGAR DRYER

Dear Mr. Linero:

Please find enclosed six (6) copies of a PSD air construction permit application for addition of a new white sugar dryer to the refinery located at the Clewiston Mill. The proposed modification results in an increase in actual emissions of PM/PM_{10} above the PSD significant emission rates, and therefore PSD review applies. I have forwarded one (1) copy of the application to Ron Blackburn of the Department's Ft. Myers office. Also enclosed is the application fee of $7,500.

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

Sincerely,

GOLDER ASSOCIATES INC.

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

DB/nav

Enclosure

cc: Don Griffin, USSC (w/1 copy)
Ron Blackburn, FDEP (w/1 copy)

Y:\Projects\2004\0437583 USSC Scrubber\4.4.1\L091004.doc

AIR PERMIT APPLICATION TO CONSTRUCT NEW WHITE SUGAR DRYER

U.S. SUGAR CORPORATION
CLEWISTON, FLORIDA

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

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

September 2004
0437583

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

Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

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

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

Air Operation Permit – Use this form to apply for:

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

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

To ensure accuracy, please see form instructions.

Identification of Facility

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

Application Contact

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

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	9-13-04
2. Project Number(s):	0510003-026-AC
3. PSD Number (if applicable):	PSD-FL-346
4. Siting Number (if applicable):	

APPLICATION INFORMATION

Purpose of Application

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

Air Construction Permit

☒ Air construction permit.

Air Operation Permit

☐ Initial Title V air operation permit.

☐ Title V air operation permit revision.

☐ Title V air operation permit renewal.

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

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

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

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

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

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

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

Application Comment

Air Construction Permit application to construct a new white sugar dryer in the refinery building.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
015	VHP sugar dryer (S-11)	AC1A	$7,500
016	White sugar dryer (S-10)	AC1A	
	New white sugar dryer (S-13)	AC1A	
018	Vacuum Systems (S-1, S-2, S-3)	AC1A	
019	Six conditioning silos (S-7, S-8, S-9)	AC1A	
020	Screening/distribution (S-5, S-6)	AC1A	
022	Packaging baghouse (S-4)	AC1A	

Application Processing Fee

Check one: ☒ Attached - Amount: $7,500 ☐ Not Applicable

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official:
   William R. Raiola, Senior Vice President - Sugar Processing
2. Owner/Authorized Representative or Responsible Official Mailing Address:
   Organization/Firm: **United States Sugar Corporation**
   Street Address: **111 Ponce DeLeon Ave.**
   City: **Clewiston** State: **FL** Zip Code: **33440**
3. Owner/Authorized Representative or Responsible Official Telephone Numbers:
   Telephone: (**863**) **902 - 2703** Fax: (**863**) **902 - 2729**
4. Owner/Authorized Representative or Responsible Official Statement:

   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.*

Signature — September 9, 2004 (Date)

* 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**

APPLICATION INFORMATION

Application Responsible Official Certification

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

1. Application Responsible Official Name:

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

   ☐ For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.

   ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively.

   ☐ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.

   ☐ The designated representative at an Acid Rain source.

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

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

5. Application Responsible Official Email Address:

6. Application Responsible Official Certification:

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

   Signature Date

APPLICATION INFORMATION

Professional Engineer Certification

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** ext.**545** Fax: **(352) 336-6603**
4. Professional Engineer Email Address: **dbuff@golder.com**
5. Professional Engineer Statement:

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

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

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

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

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

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

David A. Buff
Signature

9/10/04
Date

(seal)

* Attach any exception to certification statement.

** Board of Professional Engineers Certificate of Authorization #00001670

APPLICATION INFORMATION

Professional Engineer Certification

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

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

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

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

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

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

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

_____ _____
Signature Date

(seal)

* Attach any exception to certification statement.

**** Board of Professional Engineers Certificate of Authorization #00001670**

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

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

Facility Contact

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

Facility Primary Responsible Official

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

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

APPLICATION INFORMATION

Facility Regulatory Classifications

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

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

APPLICATION INFORMATION

List of Pollutants Emitted by Facility

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

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

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

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

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **UC-FI-C1** ☐ Previously Submitted, Date:____
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **UC-FI-C2** ☐ Previously Submitted, Date:____
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID:_____ ☐ Previously Submitted, Date:____

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location:
   ☐ Attached, Document ID:_____ ☒ Not Applicable (existing permitted facility)
2. Description of Proposed Construction or Modification:
   ☒ Attached, Document ID: **PSD Report**
3. Rule Applicability Analysis:
   ☒ Attached, Document ID: **PSD Report**
4. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID:____ ☒ Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.):
   ☐ Attached, Document ID:____ ☒ Not Applicable
6. Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.):
   ☐ Attached, Document ID:____ ☒ Not Applicable
7. Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.):
   ☐ Attached, Document ID:____ ☒ Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(5)(h)5., F.A.C.):
   ☐ Attached, Document ID:____ ☒ Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(5)(e)1. and 62-212.500(4)(e), F.A.C.):
   ☐ Attached, Document ID:____ ☒ Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.):
    ☐ Attached, Document ID:____ ☒ Not Applicable

APPLICATION INFORMATION

Additional Requirements for FESOP Applications

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

Additional Requirements for Title V Air Operation Permit Applications

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

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

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

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

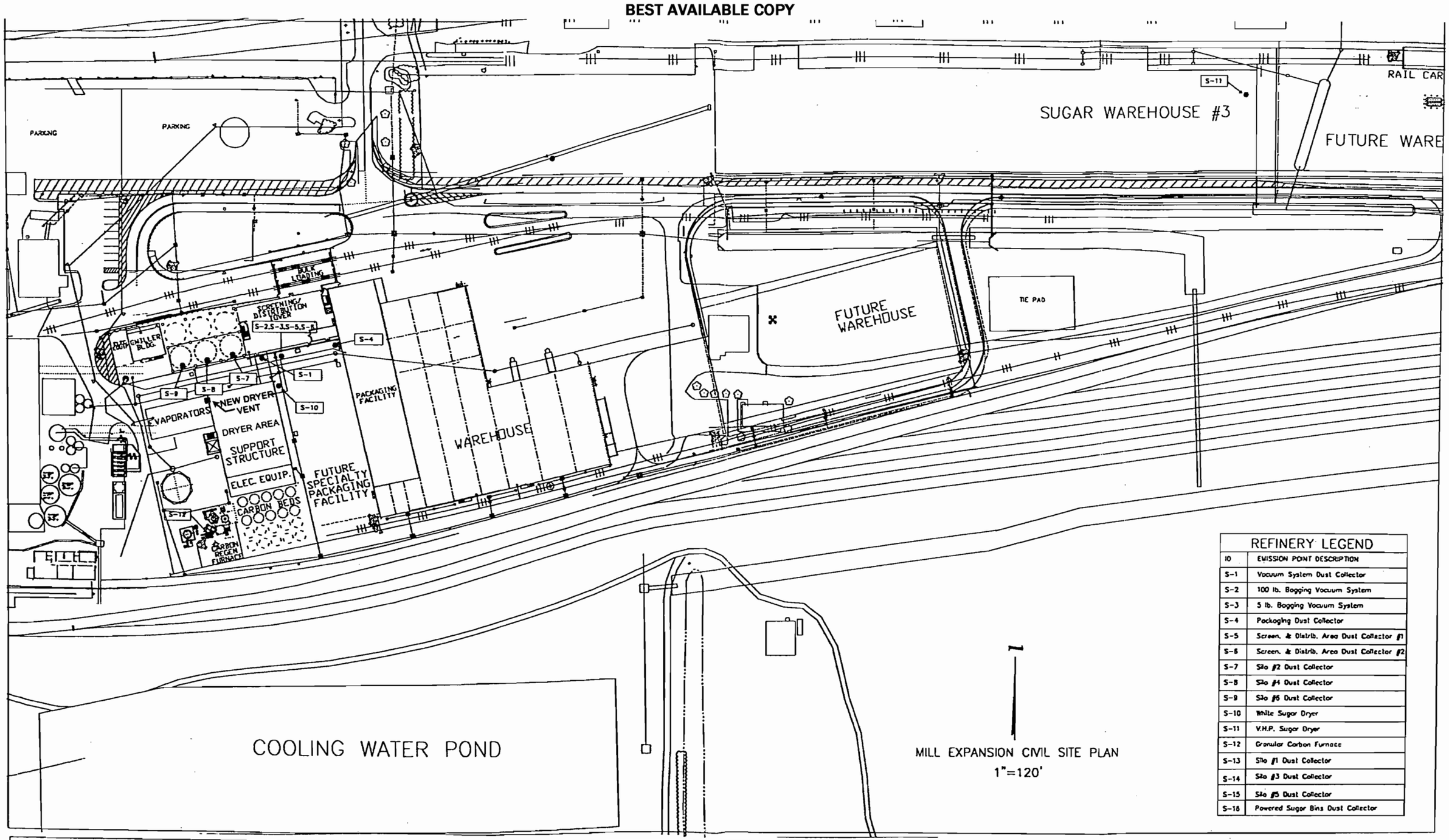
5. Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only) :
   ☐ Attached, Document ID:____ ☐ Not Applicable

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

Additional Requirements Comment

ATTACHMENT UC-FI-C1

FACILITY PLOT PLAN



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

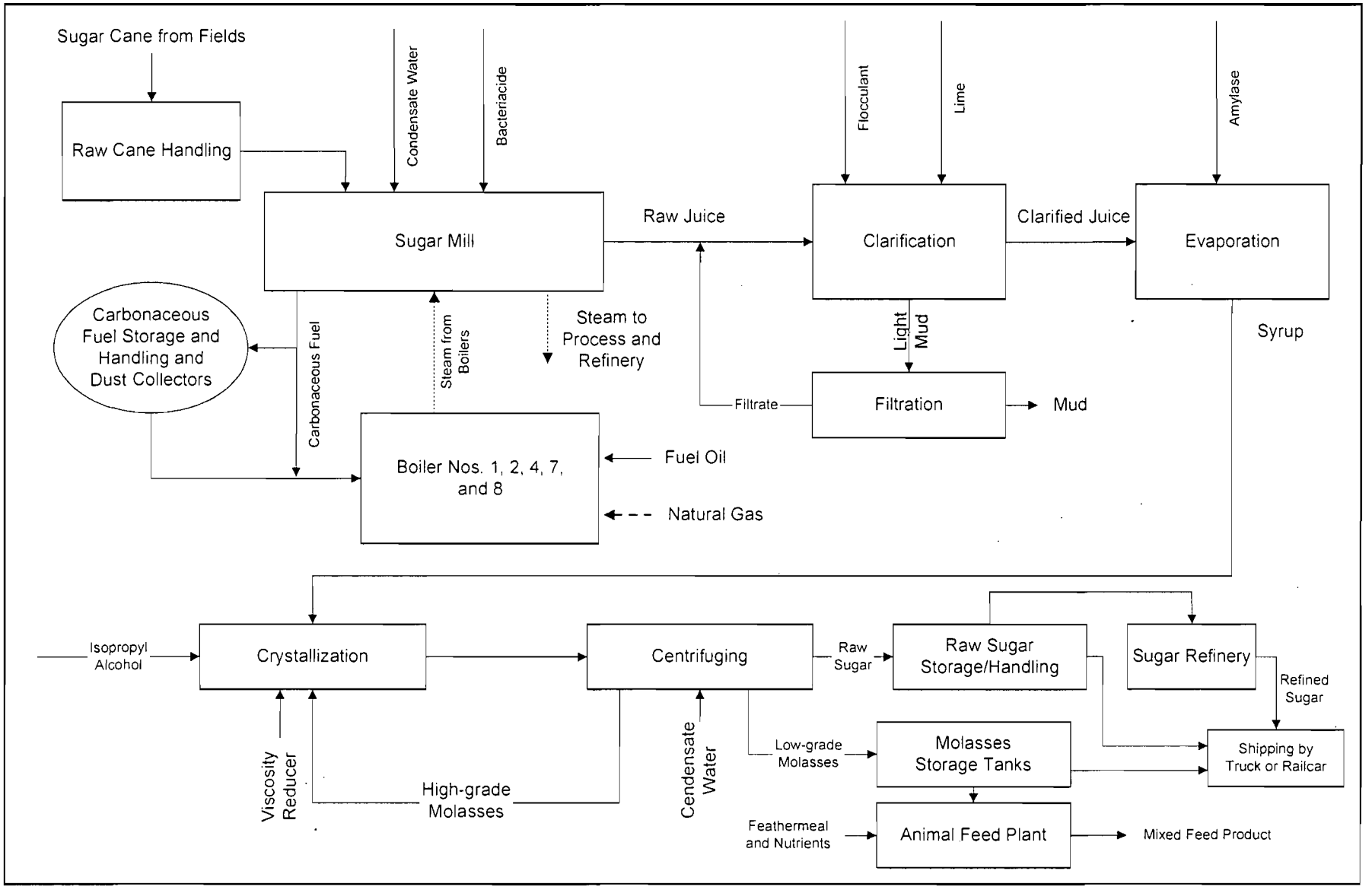
Attachment UC-FI-C1.
0437583/4/4.4/UC-FI-C1.psd

Location of Sugar Refinery Sources and Major Buildings

Golder Associates

ATTACHMENT UC-F1-C2

PROCESS FLOW DIAGRAM



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

Process Flow Legend
Solid/Liquid
Steam
Gaseous

Clewiston Sugar Mill Facility

Filename: 0437583/4/4.4/UC-FI-C2.VSD

Date: 09/08/04

Golder Associates

III. EMISSIONS UNIT INFORMATION

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

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

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

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

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

   ☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

   ☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

   ☒ This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

   ☐ This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

   ☐ This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

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

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

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

9. Package Unit:
   Manufacturer: Model Number:

10. Generator Nameplate Rating: MW

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

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:
The emissions from the VHP sugar dryer, white sugar dryer, vacuum systems, conditioning silos, bins and packaging operations are controlled with baghouses. There are a total of 11 baghouses.

The emissions from the granular carbon regeneration furnace are controlled with a direct flame afterburner and a wet venturi/impingement plate scrubber system.

The emissions from the new white sugar dryer will be controlled with 4 high efficiency cyclones followed by a wet scrubber.

2. Control Device or Method Code(s): **018, 053, 054, 055, 099**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate: **803,000 TPY of refined sugar**	
3. Maximum Heat Input Rate: million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule:	
24 hours/day	**7** days/week
52 weeks/year	**8,760** hours/year
6. Operating Capacity/Schedule Comment: **Maximum production rate refers to bulk and bagged refined sugar loaded out from this facility. Maximum daily rate is 2,250 tons per day.**	

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **Sugar Refinery**	2. Emission Point Type Code: **3**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **See Attachment UC-EU1-A11.**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **78** feet	7. Exit Diameter: **7.0 × 6.0** feet
8. Exit Temperature: **110**°F	9. Actual Volumetric Flow Rate: **115,000** acfm	10. Water Vapor: **10**%
11. Maximum Dry Standard Flow Rate: **96,000** dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: **Stack parameters represent new White Sugar Dryer stack. See Attachment UC-EU1-A11 for a list of all stacks and their parameters in this emissions unit.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type): **Food and Agriculture; Sugar Cane Processing; General**		
2. Source Classification Code (SCC): **3-02-015-01**	3. SCC Units: **Tons Produced**	
4. Maximum Hourly Rate: **100**	5. Maximum Annual Rate: **803,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: **Maximum hourly and annual rates refer to the amount of refined sugar produced by the fluidized bed drying system and packaged or loaded via the bulk shipment facility. Maximum daily production limited to 2,250 tons per day.**		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type): **Food and Agriculture; Sugar Cane Processing; Other Not Classified**		
2. Source Classification Code (SCC): **3-02-015-99**	3. SCC Units: **Tons Processed**	
4. Maximum Hourly Rate: **85**	5. Maximum Annual Rate: **730,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: **Maximum hourly and annual rates based on 2,000 TPD and refer to the amount of refined sugar that could be processed through packaging operations.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): **In-Process Fuel Use; Distillate Oil; General**		
2. Source Classification Code (SCC): **3-90-005-89**	3. SCC Units: **Thousand Gallons Burned**	
4. Maximum Hourly Rate: **0.09**	5. Maximum Annual Rate: **788.4**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.05**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **135**
10. Segment Comment: **Maximum rates refer to the amount of No. 2 fuel oil burned in the granular carbon regeneration furnace (GCRF) and afterburner.**		

Segment Description and Rate: Segment _____ of _____

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

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
Particulate Matter - PM	018	054	EL
Particulate Matter - PM_{10}	018	054	NS
Volatile Organic Compounds - VOC	099	053	EL
SO_2	053	055	EL
NO_x			NS
CO			NS

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

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **10.6** lb/hour **46.3** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: Reference:	7. Emissions Method Code: **0**
8. Calculation of Emissions: **See Attachment UC-EU1-F18 for calculations.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 8

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.63 lb/hr**	4. Equivalent Allowable Emissions: **1.63** lb/hour **7.12** tons/year
5. Method of Compliance: **EPA Method 5 or DEP Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-010-AC; PSD-FL-272A. Applies to VHP Sugar Dryer (EU 015) (Point ID S-11). As a surrogate parameter for PM, VE Must be less than 5% opacity.**	

Allowable Emissions Allowable Emissions 2 of 8

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.43 lb/hr**	4. Equivalent Allowable Emissions: **1.43** lb/hour **6.28** tons/year
5. Method of Compliance: **EPA Method 5 or DEP Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-010-AC; PSD-FL-272A. Applies to existing White Sugar Dryer No. 1 (EU 016) (Point ID S-10). As a surrogate parameter for PM, VE must be less than 5% opacity.**	

Allowable Emissions Allowable Emissions 3 of 8

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.7 lb/hr**	4. Equivalent Allowable Emissions: **0.7** lb/hour **3.07** tons/year
5. Method of Compliance: **EPA Method 5 or DEP Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-010-AC; PSD-FL-272A. Applies to Granular Carbon Regeneration Furnace (EU 017) (Point ID S-12).**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 4 of 8

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **6.0 lb/hr**	4. Equivalent Allowable Emissions: **6.0** lb/hour **26.27** tons/year
5. Method of Compliance: **EPA Method 5 or DEP Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Proposed permit limit. Applies to new White Sugar Dryer (Point ID S-13).**	

Allowable Emissions Allowable Emissions 5 of 8

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.19 lb/hr**	4. Equivalent Allowable Emissions: **0.19** lb/hour **0.84** tons/year
5. Method of Compliance: **EPA Method 5 or DEP Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-010-AC; PSD-FL-272A. Applies to Vacuum Systems (EU 018). As a surrogate parameter for PM, VE must be less that 5% opacity (Point IDs S-1, S-2, S-3).**	

Allowable Emissions Allowable Emissions 6 of 8

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.17 lb/hr**	4. Equivalent Allowable Emissions: **0.17** lb/hour **0.74** tons/year
5. Method of Compliance: **EPA Method 5 or DEP Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-010-AC; PSD-FL-272A. Applies to Conditioning Silos (EU 019) (Point IDs S-7, S-8, S-9).**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 7 of 8

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.25 lb/hr**	4. Equivalent Allowable Emissions: **0.25** lb/hour **1.07** tons/year
5. Method of Compliance: **EPA Method 5 or DEP Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-010-AC; PSD-FL-272A. Applies to Screening and Distribution (EU 020) (Point IDs S-5, S-6). As a surrogate parameter for PM, VE must be less than 5% opacity.**	

Allowable Emissions Allowable Emissions 8 of 8

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.21 lb/hr**	4. Equivalent Allowable Emissions: **0.21** lb/hour **0.90** tons/year
5. Method of Compliance: **EPA Method 5 or DEP Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-010-AC; PSD-FL-272A. Applies to Packing Baghouse (EU 022) (Point ID S-4). As a surrogate parameter for PM, VE must be less than 5% opacity.**	

Allowable Emissions Allowable Emissions _____ of _____

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

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

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: **PM_{10}**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **10.5** lb/hour **46.0** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: Reference:	7. Emissions Method Code: **0**
8. Calculation of Emissions: **See Attachment UC-EU1-F18 for calculations.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 8

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.63 lb/hr**	4. Equivalent Allowable Emissions: **1.63** lb/hour **7.12** tons/year
5. Method of Compliance: **EPA Method 5 or DEP Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-010-AC; PSD-FL-272A. Applies to VHP Sugar Dryer (EU 015) (Point ID S-11). As a surrogate parameter for PM, VE Must be less than 5% opacity.**	

Allowable Emissions Allowable Emissions 2 of 8

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.43 lb/hr**	4. Equivalent Allowable Emissions: **1.43** lb/hour **6.28** tons/year
5. Method of Compliance: **EPA Method 5 or DEP Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-010-AC; PSD-FL-272A. Applies to existing White Sugar Dryer No. 1 (EU 016) (Point ID S-10). As a surrogate parameter for PM, VE must be less than 5% opacity.**	

Allowable Emissions Allowable Emissions 3 of 8

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.63 lb/hr**	4. Equivalent Allowable Emissions: **0.63** lb/hour **2.76** tons/year
5. Method of Compliance: **EPA Method 5 or DEP Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-010-AC; PSD-FL-272A. Applies to Granular Carbon Regeneration Furnace (EU 017) (Point ID S-12).**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

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

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **6.0 lb/hr**	4. Equivalent Allowable Emissions: **6.0** lb/hour **26.27** tons/year
5. Method of Compliance: **EPA Method 5 or DEP Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Proposed permit limit. Applies to new White Sugar Dryer (Point ID S-13).**	

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

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.19 lb/hr**	4. Equivalent Allowable Emissions: **0.19** lb/hour **0.84** tons/year
5. Method of Compliance: **EPA Method 5 or DEP Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-010-AC; PSD-FL-272A. Applies to Vacuum Systems (EU 018) (Point IDs S-1, S-2, S-3). As a surrogate parameter for PM, VE must be less that 5% opacity.**	

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

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.17 lb/hr**	4. Equivalent Allowable Emissions: **0.17** lb/hour **0.74** tons/year
5. Method of Compliance: **EPA Method 5 or DEP Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-010-AC; PSD-FL-272A. Applies to Conditioning Silos (EU 019) (Point IDs S-7, S-8, S-9).**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 7 of 8

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.25 lb/hr**	4. Equivalent Allowable Emissions: **0.25** lb/hour **1.07** tons/year
5. Method of Compliance: **EPA Method 5 or DEP Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-010-AC; PSD-FL-272A. Applies to Screening and Distribution (EU 020) (Point IDs S-5, S-6). As a surrogate parameter for PM, VE must be less than 5% opacity.**	

Allowable Emissions Allowable Emissions 8 of 8

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.21 lb/hr**	4. Equivalent Allowable Emissions: **0.21** lb/hour **0.90** tons/year
5. Method of Compliance: **EPA Method 5 or DEP Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-010-AC; PSD-FL-272A. Applies to Packing Baghouse (EU 022) (Point ID S-4). As a surrogate parameter for PM, VE must be less than 5% opacity.**	

Allowable Emissions Allowable Emissions _____ of _____

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

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

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: **VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **4.42** lb/hour **19.38** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: Reference: **Permit Limits**	7. Emissions Method Code: **0**
8. Calculation of Emissions: **See Tables 2-1 through 2-4 of PSD Report.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

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

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1.0 lb/hr**	4. Equivalent Allowable Emissions: **1.0** lb/hour **4.38** tons/year
5. Method of Compliance: **EPA Method 25A and 18.**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-010-AC; PSD-FL-272A. Applies to Granular Carbon Regeneration Furnace only.**	

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

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **15.0 tons/yr**	4. Equivalent Allowable Emissions: **3.42** lb/hour **15.0** tons/year
5. Method of Compliance: **EPA Method 25A and 18.**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-010-AC; PSD-FL-272A. Applies to Alcohol Usage.**	

Allowable Emissions Allowable Emissions _____ of _____

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

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

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

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

1. Pollutant Emitted: **SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.64** lb/hour **2.80** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.05% S fuel** Reference: **Permit Limits**	7. Emissions Method Code: **0**
8. Calculation of Emissions: **See Table 2-2 of PSD Report.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

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

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.05% S fuel**	4. Equivalent Allowable Emissions: **0.64** lb/hour **2.80** tons/year
5. Method of Compliance: **Fuel analysis**	
6. Allowable Emissions Comment (Description of Operating Method): **Permit No. 0510003-010-AC; PSD-FL-272A. Applies to Granular Carbon Regeneration Furnace only (EU 017).**	

Allowable Emissions Allowable Emissions _____ of _____

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

Allowable Emissions Allowable Emissions _____ of _____

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

G. VISIBLE EMISSIONS INFORMATION

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

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: **VE05**	2. Basis for Allowable Opacity: ☐ Rule ☒ Other
3. Allowable Opacity: Normal Conditions: **5** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **DEP Method 9**	
5. Visible Emissions Comment: **Permit No. 0510003-010-AC; PSD-FL-272A. Applies to refinery and dryer baghouses.**	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: **VE10**	2. Basis for Allowable Opacity: ☐ Rule ☒ Other
3. Allowable Opacity: Normal Conditions: **10** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **DEP Method 9**	
5. Visible Emissions Comment: **Permit No. 0510003-010-AC; PSD-FL-272A. Applies to Granular Carbon Regeneration Furnace.**	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor 1 of 1

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

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION
Section [1] of [1]
Sugar Processing Operations

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

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

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

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

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

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

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

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

EMISSIONS UNIT INFORMATION

Section [1] of [1]
Sugar Processing Operations

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e))
   ☒ Attached, Document ID: **PSD Report** ☐ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.)
   ☐ Attached, Document ID: _____ ☒ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements
   ☐ Attached, Document ID: _____ ☐ Not Applicable
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: _____ ☐ Not Applicable
3. Alternative Methods of Operation
   ☐ Attached, Document ID: _____ ☐ Not Applicable
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: _____ ☐ Not Applicable
5. Acid Rain Part Application
   - ☐ Certificate of Representation (EPA Form No. 7610-1)
     - ☐ Copy Attached, Document ID: _____
   - ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Not Applicable

EMISSIONS UNIT INFORMATION

Section [1] of [1]
Sugar Processing Operations

Additional Requirements Comment

ATTACHMENT UC-EU1-A11

SOURCES AND RESPECTIVE STACK PARAMETERS INCLUDED IN THE SUGAR PROCESSING OPERATION

ATTACHMENT UC-EU1-A11

Sources and Respective Stack Parameters Included in the Sugar Processing Operation

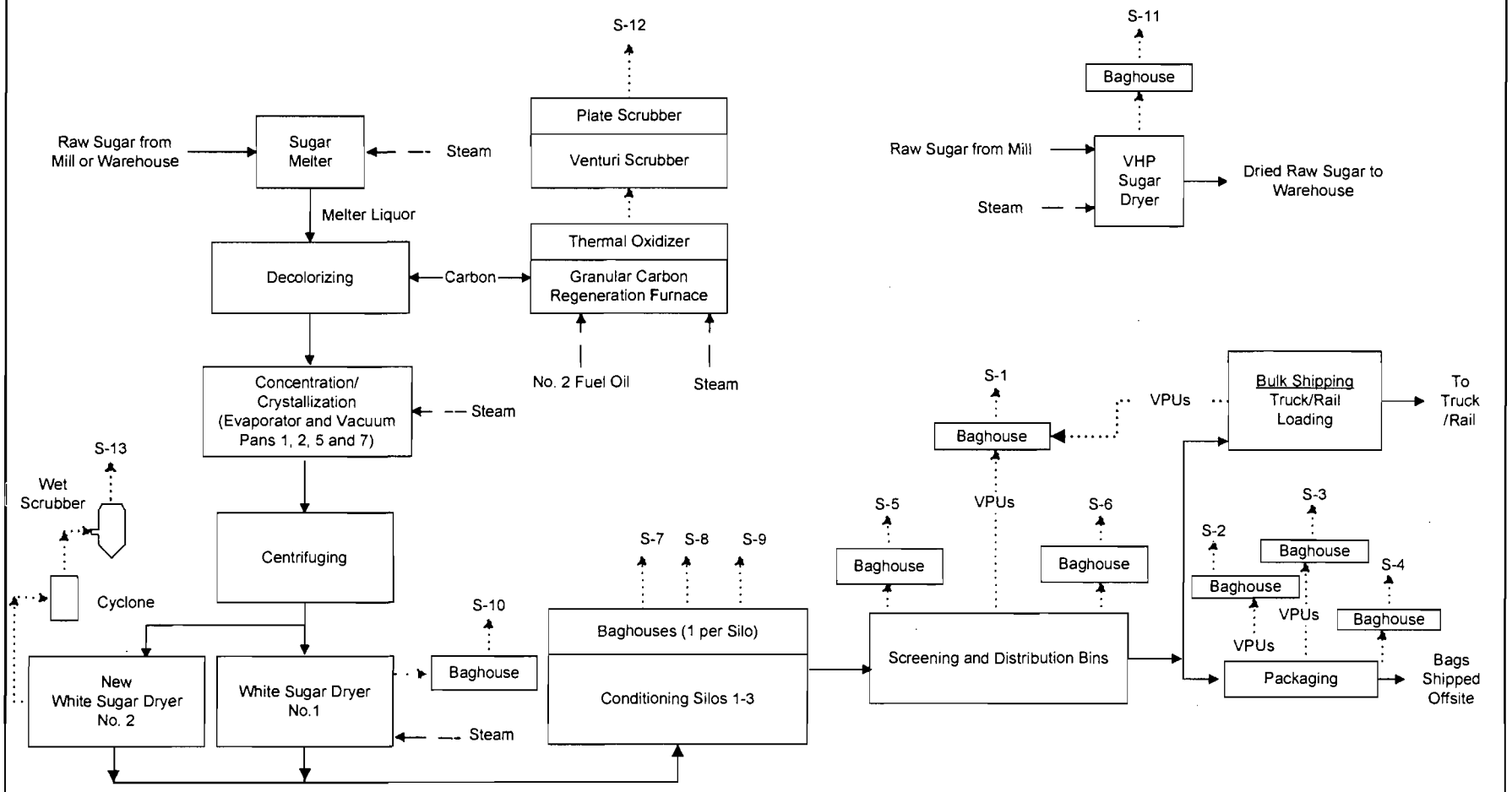
Source/Vent Name	EU ID	Stack No.	Stack/Vent Release Height (ft)	Stack/Vent Diameter (ft)	Exhaust Flow (acfm)	Exit Velocity[a] (ft/sec)	Gas Exit Temp. (°F)
Existing White Sugar Dryer	015	S-11	75	7.31	113,000	0.29	115
New White Sugar Dryer		S-13	78	7 × 6	115,000	45.6	113
VHP Sugar Dryer	016	S-10	10	4.79	127,000	0.29	115
Granular Carbon Furnace	017	S-12	30	2.00	4,300	22.8	160
Vacuum Systems							
Screening & Distribution Vacuum	018	S-1	65	0.50	1,705	0.29	68
100-lb Bagging Vacuum System	018	S-2	65	0.50	1,564	0.29	90
5-lb Bagging Vacuum System	018	S-3	65	0.50	1,585	0.29	90
Conditioning Silos							
Conditioning Silo No. 2	019	S-7	130	1.37	3,000	0.29	110
Conditioning Silo No. 4	019	S-8	130	1.37	3,000	0.29	110
Conditioning Silo No. 6	019	S-9	130	1.37	3,000	0.29	110
Screening, Distributing, Packaging, Powdered Sugar/Starch							
Screening and Distribution #1	020	S-5	72	0.95	3,200	0.29	125
Screening and Distribution #2	020	S-6	72	1.94	10,500	0.29	125
Sugar Packaging Baghouse							
Packaging Baghouse	022	S-4	60	1.94	11,500	0.29	125

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

ATTACHMENT UC-EU1-I1

PROCESS FLOW DIAGRAM

PRIVILEGED AND CONFIDENTIAL - PREPARED FOR COUNSEL



Notes:
VPUs = Vacuum Pickup Units
S = Emission Point ID
Conditioning Silos 4, 5 and 6 (Sources S-13, 14, and 15) and Powdered Sugar/Starch Bins (Source S-16) have not yet been constructed.

Attachment UC-EU1-I1 Process Flow Diagram U.S. Sugar Corporation - Clewiston, FL	**Process Flow Legend** Solid/Liquid ——→ Air ·····→ Steam — — →	Mill Expansion Project Number: 0437583/4/4.4 Filename: UC-EU1-I1.VSD Date: 9/10/04 Golder Associates

ATTACHMENT UC-EU1-I2

FUEL ANALYSIS SPECIFICATION

ATTACHMENT UC-EU1-I2

Fuel Analysis Specification for U.S. Sugar Corporation Granular Carbon Regeneration Furnace

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

Note: All values represent average fuel characteristics.

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

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

ATTACHMENT UC-EU1-I3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

ATTACHMENT UC-EU1-I3a

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

Control Equipment Parameters for

White Sugar Dryer No. 2

Cyclone Collectors

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

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

ATTACHMENT UC-EU1-I3b

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

Control Equipment Parameters for

White Sugar Dryer No. 2

Wet Scrubber

Manufacturer and Model No.	Entoleter, LLC – Centrifield Vortex Model 1500
Inlet Gas Temp (°F)	113
Inlet Gas Flow Rate	105,000 acfm; 96,000 dscfm
Pressure Drop Across Scrubber (inches of H_2O)	8
Scrubber Recirculation Flow Rate (gal/min)	500
Scrubber Make-up Flow Rate (gal/min)	12
Inlet Dust Loading	118 lb/hr
Outlet Dust Loading	4.2 lb/hr*
Wet Scrubbing System Particulate Removal Efficiency	96%

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

*Manufacturer's guarantee; requested permit limit is 6.0 lb/hr.

PSD REPORT

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1.0 INTRODUCTION AND EXECUTIVE SUMMARY

United States Sugar Corporation (U.S. Sugar) owns and operates a sugar mill and sugar refinery located in Clewiston, Florida, Hendry County. U.S. Sugar is proposing to construct and operate a new white sugar dryer at the sugar refinery in order to provide backup to the existing white sugar dryer, and also allow the existing dryer to operate at a lower, more efficient operating rate. The current throughput limitation for the refinery of 2,200 tons per day (TPD) of refined sugar will increase slightly to 2,250 TPD. The current annual throughput limitation of 803,000 tons per year (TPY) of refined sugar will not change as a result of this project. However, since the addition of a second white sugar dryer may allow an increase in the refined sugar production on an annual basis, debottlenecking of the refinery is addressed in this application. The new white sugar dryer (White Sugar Dryer No. 2) will utilize the existing sugar refinery equipment, including the granular carbon regeneration furnace, the vacuum systems, conditioning silos, screening and distribution systems, and packaging equipment. The new white sugar dryer will use steam to provide the heat for drying the sugar.

This application contains the technical information developed in accordance with Prevention of Significant Deterioration (PSD) regulations, as promulgated by the U.S. Environmental Protection Agency (EPA) and implemented through delegation to the Florida Department of Environmental Protection (FDEP). It presents an evaluation of regulated pollutants subject to PSD review, and a demonstration of the Best Available Control Technology (BACT). Through this application, U.S. Sugar requests that FDEP issue a PSD construction permit for this project.

1.1 PREVENTION OF SIGNIFICANT DETERIORATION (PSD) REQUIREMENTS

The permitting of this project in Florida requires an air construction permit and PSD review approval. The project will be a modification to an existing air emission source in Hendry County. The EPA has implemented regulations requiring PSD review for new or modified sources that increase air emissions above certain threshold amounts. PSD regulations are promulgated under Title 40 of the Code of Federal Regulations (CFR), Part 52.21, and are implemented in Florida through delegation to the FDEP. FDEP has adopted the EPA PSD regulations as Rule 62-212.400, Florida Administrative Code (F.A.C.).

The PSD applicability for the project is summarized in Table 1-1. Based on the net emissions increase due to the proposed project, a PSD review is required for each of the following regulated pollutants:

- Particulate matter (PM) as total suspended particulate matter (TSP), and
- Particulate matter with aerodynamic diameter of 10 microns or less (PM_{10}).

Hendry County has been designated as an attainment or unclassifiable area for all criteria pollutants. The County is also classified as a PSD Class II area for PM_{10}, SO_2, and NO_2; therefore, the new source review will follow PSD regulations pertaining to such designations.

Since the net increase in emissions of all regulated pollutants is less than 50 tons per year (TPY), the modification is exempt from all PSD review requirements except for the application of BACT to the new white sugar dryer [Rule 62-214.400(3)(d), F.A.C., and 40 CFR 52.21(i)(7)].

1.2 BEST AVAILABLE CONTROL TECHNOLOGY (BACT) ANALYSIS

For the proposed white sugar dryer, a BACT analysis was conducted for each pollutant for which the net increase exceeds the EPA/FDEP significance emission rate and, is therefore, subject to BACT review. A BACT review was only required for PM/PM_{10} emissions. The proposed BACT to control PM/PM_{10} emissions from the new white sugar dryer is high efficiency cyclones followed by a wet scrubber, which limits PM/PM_{10} emissions to 6 lbs/hr and 0.007 grains per dry standard cubic feet (gr/dscf) of exhaust gas.

1.3 SUMMARY OF ANALYSIS

Results from the analyses presented in this PSD Air Permit application lead to the following conclusions:

- The proposed BACT for each applicable pollutant provides the maximum degree of emissions reduction for he white sugar dryer, based on energy, environmental, and economic impacts and technical feasibility.
- As documented in this application, the proposed project will be designed to operate in compliance with all applicable state and federal air quality rules and regulations.

1.4 AIR PERMIT APPLICATION ORGANIZATION

This air permit application is divided into four major sections, including this introduction and summary section:

- Section 2.0 presents a description of the project, including air emissions and stack parameters;
- Section 3.0 provides a review of the state and federal air quality regulations applicable to the proposed project; and
- Section 4.0 presents the control technology review and BACT analysis.

Table 1-1. New White Sugar Dryer No. 2 PSD Source Applicability Analysis, U. S. Sugar, Clewiston

Regulated Pollutant	Sugar Refinery Baseline Emissions (TPY)	Sugar Refinery Future Potential Emissions (TPY)	Net Change In Emissions Due to Proposed Project (TPY)	PSD Significant Emission Rate (TPY)	PSD Review Triggered?
Particulate Matter (Total)	13.26	46.30	33.03	25	Yes
Particulate Matter (PM_{10})	13.08	45.99	32.91	15	Yes
Sulfur Dioxide	1.05	2.80	1.75	40	No
Nitrogen Oxides	10.13	13.14	3.01	40	No
Carbon Monoxide	10.13	13.14	3.01	100	No
VOC	4.37	19.38	15.01	40	No
Sulfuric Acid Mist	0.064	0.172	0.107	7	No

TPY= tons per year

PM_{10} = Particulate Matter with aerodynamic diameter less than or equal to 10 microns

VOC = Volatile Organic Compounds

2.0 PROJECT DESCRIPTION

2.1 SITE DESCRIPTION

U.S. Sugar owns and operates a raw sugar mill and sugar refinery located in Clewiston, Hendry County, Florida. U.S. Sugar is proposing to construct and operate a new white sugar dryer (No. 2) at the mill in order to provide backup to the existing white sugar dryer, and also allow the existing dryer to operate at a lower, more efficient operating rate.

The Clewiston sugar mill receives sugarcane by train from nearby cane fields and processes it into raw sugar. The cane is first cut into small pieces, and is then passed through a series of presses (mills) where the sugar cane juices are squeezed from the cane. The fibrous byproduct material remaining is called bagasse, and is burned in on-site steam boilers for fuel.

The cane juice is further processed and purified through a series of steps involving clarification, separation, evaporation and crystallization. The final product is raw, unrefined sugar. U.S. Sugar began operating an on-site sugar refinery in 1997, wherein raw sugar is refined into white sugar suitable for human consumption. Steam is also used in the raw sugar refining process. Both raw and refined sugar is shipped offsite to customers. Refer to Attachment USC-FI-C2 of the permit application form for a flow diagram of the overall sugar production process.

The Clewiston mill currently consists of five bagasse/oil-fired boilers (Boiler Nos. 1, 2, 3, 4, and 7), which provide steam to the sugar mill and refinery. The primary fuel for all boilers is bagasse, while fuel oil is used for startup, shutdown, malfunction, and as a supplemental fuel. For economic reasons, fuel oil burning is minimized to the extent possible.

The Clewiston Mill is currently operated under Title V operating permit no. 0510003-014-AV, issued April 8, 2002.

2.2 SUGAR REFINERY

The sugar refinery at the Clewiston Mill began operating in 1996. The refinery was originally permitted under construction permit no. 0510003-004-AC, issued in 1995. Currently permitted operating sources within the sugar refinery are listed in Attachment UC-EU1-A11 of the application form and in Attachment UC-EU1-I1, Process Flow Diagram (note that the table and flow diagram

also contain the new white sugar dryer). Note that four sources originally permitted were never constructed (three conditioning silos and one powdered sugar hopper).

In the current sugar mill operation, raw sugar melter liquor is received from the existing sugar processing plant. The process which removes impurities from the wet raw sugar through decolorization and crystallization is then performed. This process produces wet, refined white sugar. Drying and cooling of the refined sugar is performed with a fluidized bed dyer/cooler. After drying, the refined white sugar will be cured in bulk conditioning silos, screened for the required size, and then sent via a network of conveyors, bucket elevators, and scales to either the bulk load out area for shipping by truck or by rail car, or the packaging room where it is packed in bags.

To date, estimated annual PM emission rates from the facility described in the original permit application and in subsequent modifications have been below the emission thresholds that trigger new source review under PSD regulations. However, in this application, U.S. Sugar is proposing additional modifications to the sugar refinery that will result in annual PM emissions above the PSD significant emission rate of 25 TPY for PM and 15 TPY for PM_{10}. U.S. Sugar is proposing to add a new white sugar dryer and associated PM control equipment consisting of four cyclone high-efficiency cyclones followed by a wet scrubber.

The addition of the new dryer will potentially allow more refined sugar to be produced by the sugar refinery on an annual basis. As a result, the sugar refinery as a whole will be "affected" by the proposed project, i.e., actual annual emissions from the sugar refinery may increase as a result of the addition of the dryer. The overall refinery operations are described in more detail in the following sections. A process flow diagram for the refinery is presented in Attachment UC-EU-I1. A plot plan providing the location of the proposed dryer is presented in Figure 2-1.

2.2.1 SUGAR PROCESSING

The refined sugar process includes several steps. The raw sugar melter liquor received from the mill is decolorized using granular carbon. As part of the decolorization process, a granular carbon regeneration furnace (GCRF) is used to regenerate the carbon so that the carbon can be reused in the process. During the regeneration process, the carbon is dried and colorants and other organic compounds which are removed from the sugar solution are vaporized. Non-vaporized colorants and

other organic compounds are burned off in a multiple hearth furnace. The regeneration furnace is fired with very low sulfur No. 2 fuel oil (0.05 percent sulfur, maximum).

The carbon regeneration process results in emissions of PM, PM_{10}, volatile organic compounds (VOCs), nitrogen oxides (NO_x), carbon monoxide (CO), and sulfur dioxide (SO_2). Emissions are controlled by a high-temperature afterburner, fired by ultra low sulfur No. 2 fuel oil, followed by a high-energy venturi wet scrubber and a tray-type wet scrubber. The No. 2 fuel oil is supplied via a low sulfur fuel oil storage tank.

The decolorization step is followed by concentration, crystallization, and centrifuging, producing wet, refined white sugar. No air emissions are expected to be generated from these steps in the process. After centrifuging, the sugar is dried.

2.2.2 DRYING, CONDITIONING, AND SIZING OPERATIONS

The drying operations involve using a fluidized bed dryer/cooler (White Sugar Dryer No. 1) to dry the sugar. In the fluidized bed drying process, wet sugar is passed over jets of heated air that suspend the particles and evaporate the moisture. Heat is supplied to the process via steam from the on-site boilers.

The dried sugar is cured in three conditioning silos that feed conditioned, dehumidified air through the sugar in the silos. Sugar is gristed using vibrating screens. Gristed sugar is conveyed to distribution bins for shipping and packaging.

The new White Sugar Dryer No. 2 will be very similar to the existing dryer. It will be a fluidized bed-type dryer/cooler, using steam to supply the heat needed for drying. The unit will be rated for 85 TPH of refined sugar. The sugar enters the fluidized bed unit at a temperature of 120 to 140 degrees Fahrenheit (°F) and a moisture content of about 1.5 percent. The dryer/cooler cools the sugar to 92 to 102°F and dries it to 0.03 percent or less moisture content. The unit utilizes approximately 11,000 lb/hr of low pressure [12 pounds per square inch gauge (psig)] steam.

The new White Sugar Dryer No. 2 will operate in parallel with the existing White Sugar Dryer No. 1, providing a more reliable operation by providing backup drying capability when one of the two dryers is out of service and by allowing the existing White Sugar Dryer No. 1 to operate at a lower,

more efficient operating load. No other new equipment will be added to the existing sugar processing equipment, bulk loadout operations, or packaging operations by this project. Maximum operating hours for all of the refinery equipment will be 8,760 hours per year (hr/yr). The maximum production capacity utilizing the fluidized bed system, with the existing dryer and the new dryer, will increase slightly to 2,250 TPD, while the maximum annual throughput will remain at 803,000 TPY of white refined sugar. However, the actual annual production rate of the sugar refinery may increase with the addition of the new dryer.

2.2.3 DISTRIBUTION SYSTEM OPERATIONS

Packaging of sugar is performed in the packaging building at a maximum rate of 730,000 TPY (2,000 TPD, maximum daily average) of sugar. These are the current production limits for the packaging operation, which will not change as a result of this project. The packaging system consists of all machinery necessary to measure and bag sugar. This system has a dust collector used for capture of dust created during packaging operations and to reclaim sugar through routine clean up of packaging spills.

The bulk loadout building to the north of the packaging building contains two sugar bins that can be used to load bulk sugar into either trucks or railcars at a maximum rate of 803,000 TPY (2,250 TPD, maximum daily average). Sugar dust emissions from each bin are controlled by a high-efficiency baghouse that emits to the atmosphere from a stack on the roof of the building.

The sugar bulk load-out area is a potential small source of fugitive PM emissions. Trucks and rail cars will be loaded for shipment inside a building enclosed on two sides. Bulk loading of sugar can emit fugitive sugar dust, but is for the most part confined to the load-out building where it settles and is washed from the floor.

Sugar handling operations at U.S. Sugar use high-efficiency baghouses, enclosures for conveying systems and transfer points, and structure enclosures for bulk load out operations to recover/control sugar dust emissions.

2.2.4 SUGAR SPILL CLEANUP OPERATIONS

Spills of sugar product may occur as a consequence of bagging and loading operations as well as some operations in the process. In order to control and recover product, a vacuum system for the

facility is installed. Spills are vacuumed and recovered at a central location. There are four pickup points located in the screening tower, silo, bulk loading, and distribution buildings. Emissions from the vacuum pickup points are controlled by three independent high efficiency baghouses that emit to the atmosphere through stacks on the roof of the building.

2.2.5 MILL SUPPORT OPERATIONS

Support operations include paper cutting cleanup and bag stamping operations for the packaging system, and treating of process air by dehumidification and conditioning. The paper cutting cleanup operation uses a vacuum system to pick up cuttings from the bagging operations. The loose paper is sent through a cyclonic separator to collect the paper for disposal in the garbage bin. The cyclonic separator vents inside the building; therefore, it is not a source of air emissions. Bag stamping operations consist of stamping codes and dates on the bags before being filled with sugar.

In the sugar process, specially treated, conditioned, and dehumidified air is required to aid in curing and conditioning the sugar in the conditioning silos. The treated air is also used to prevent the sugar from clumping together and fouling the systems.

2.2.6 EXISTING SUGAR REFINERY CONTROL EQUIPMENT

As a consequence of the fluidized bed drying process, and screening, conveying, and loading operations, some of the sugar can break apart into smaller particles to form sugar dust. This sugar dust can be emitted to the atmosphere in the form of particulate matter. The existing White Sugar Dryer No. 1 (S-10) and the VHP Dryer (S-11) utilize baghouses, for which the manufacturer estimates an outlet sugar dust emission rate of 0.0017 and 0.0018 grains per dry standard cubic foot (gr/dscf), respectively, and a removal efficiency of 99.9 percent or greater.

Product recovery and sugar dust control equipment serving the sugar refining process (conveyors, bucket elevators, scales, screens, and bins) consists of high efficiency baghouses from various manufacturers (see the flow diagram in Attachment UC-EU1-I1 for detailed representations of the pickup points). The Sugar Conditioning Silos (S-7, S-8, and S-9), the Screening and Distribution systems (S-5 and S-6), and the Sugar Packaging operation (S-4) utilize baghouses with Gore-Tex, or similar material, as the fabric media, for which the manufacturer estimates a sugar dust emission rate of 0.0025 gr/dscf and a removal efficiency of 99.9 percent or greater. In addition, building

enclosures on the entire system and the bulk loadout stations are utilized to minimize fugitive PM emissions from these operations.

To control dust in the refinery building and to reclaim product, multiple sugar dust pickup points are located throughout the building. These fugitive dust pickup points feed into the vacuum pickup unit (VPU) baghouses (S-1, S-2, and S-3). The baghouse manufacturer guarantees an outlet dust loading of approximately 0.008 gr/dscf for these baghouses. In addition to the dust pickup points, all conveyors in the refinery buildings are enclosed and kept under a slight positive pressure in order to prevent contamination of the refined sugar.

The VOC's generated in the granular carbon regeneration furnace (S-12) are oxidized internally at a maximum temperature of 1,600°F and exhausted to a high-energy venturi wet scrubber followed in series by a plate-type wet scrubber. VOC are controlled/destroyed in the afterburner, while particulates from the carbon are removed in the wet scrubbers.

2.2.7 NEW WHITE SUGAR DRYER CONTROL EQUIPMENT

The air pollution control equipment for the proposed White Sugar Dryer No. 2 (S-13) will consist of four (4) high efficiency cyclones followed by a wet scrubber. The cyclones will be designed to remove the large particulate particles prior to the dryer exhaust gas stream entering the wet scrubber. The cyclones will be designed for a pressure drop of 6 inches of water column and a removal efficiency of 99 percent. The wet scrubber will be designed for an inlet volume of 105,000 actual cubic feet per minute (acfm), a pressure drop of 8 inches of water column, and a removal efficiency of 95 percent. Refer to Attachment UC-EU1-I3 of the application form and Appendix A for further design data.

The exhaust gases from the new White Sugar Dryer No. 2, after passing through the control devices, will exhaust to atmosphere at a point on the refinery building 78 feet above ground level. The exhaust vent size will be 84 inches by 72 inches.

2.3 PROPOSED NEW WHITE SUGAR DRYER AND REFINERY EMISSIONS

Future potential PM/PM_{10} emissions for the sugar refinery sources with baghouses, as well as the proposed White Sugar Dryer No. 2 with wet scrubber, are presented in Table 2-1. PM/PM_{10} emissions from the White Sugar Dryer No. 2 will be controlled by four high-efficiency cyclones

followed by a wet scrubber. The estimated exhaust gas flow rate for the dryer is 96,000 dscfm. The control equipment manufacturer (Entoleter LLC) has estimated a maximum emission rate of 4.1 lb/hr (0.005 gr/dscf); however, an emission rate of 6.0 lb/hr (0.0729 gr/dscf), has been proposed as an emission limit to provide a margin of compliance.

PM/PM_{10} emissions from the other sources in the sugar refinery utilizing baghouse control devices (Table 2-1) are based on the current permitted allowable emission limits.

Future potential emissions from the GCRF were based on the current permit limits (see Table 2-2). Future potential emissions of VOC due to alcohol usage in the refinery were also based on the current permitted emission limit (see Table 2-3).

A summary of total future potential emissions from the sugar refinery after the new White Sugar Dryer No. 2 is operating is presented in Table 2-4.

2.4 SITE LAYOUT AND STRUCTURES

A plot plan of the U.S Sugar Clewiston facility, showing stack locations and property boundaries, is presented in Attachment UC-FC-C2. A plot plan of the sugar refinery building, showing the location of the new White Sugar Dryer No. 2, is presented in Attachment UC-EU1-I1.

2.5 STACK PARAMETERS

Stack parameters for the sugar refinery sources are presented in Attachment UC-EU1-A11.

Table 2-1. Future Potential Emissions of Criteria Pollutants from the Sugar Refinery Baghouses at U.S. Sugar Corp., Clewiston

Source/Vent Name	EU No.	Source ID	Exhaust Grain Loading (gr/dscf)	Exhaust Gas Flow (dscfm)	Hours of Operation	PM/PM10 Emissions (lb/hr)[a]	PM/PM10 Emissions (TPY)
V.H.P. Sugar Dryer	015	S-11	0.001723	110,042	8,760	1.63	7.12
White Sugar Dryer No. 1	016	S-10	0.00177	94,488	8,760	1.43	6.28
New White Sugar Dryer No. 2		S-13	0.00729	96,000	8,760	6.00	26.27
					TOTAL =	9.06	39.67
Vacuum Systems							
Screening and Distribution Vacuum	018	S-1	0.00754	990	8,760	0.06	0.28
100 lb Bagging Vacuum System	018	S-2	0.00856	872	8,760	0.06	0.28
5 lb Bagging Vacuum System	018	S-3	0.00759	984	8,760	0.06	0.28
					TOTAL =	0.19	0.84
Conditioning Silos							
Conditioning Silo No. 2	019	S-7	0.0025	2,641	8,760	0.06	0.25
Conditioning Silo No. 4	019	S-8	0.0025	2,641	8,760	0.06	0.25
Conditioning Silo No. 6	019	S-9	0.0025	2,641	8,760	0.06	0.25
					TOTAL =	0.17	0.74
Screening and Distribution							
Screening and Distribution #1	020	S-5	0.0025	2,668	8,760	0.06	0.25
Screening and Distribution #2	020	S-6	0.0025	8,775	8,760	0.19	0.82
					TOTAL =	0.25	1.07
Sugar Packaging Baghouse							
Packing Dust Collector	022	S-4	0.0025	9,589	8,760	0.21	0.90
		GRAND TOTAL =				9.87	43.23

[a] Based on permit emission limits.

Note: lb/hr = pounds per hour

TPY = tons per year

Table 2-2. Future Potential Emissions of Criteria Pollutants from the Granular Carbon Furnace (EU 017) at U. S. Sugar Corporation, Clewiston

Regulated Pollutant	Maximum Hourly (lb/hr)	Basis	Maximum Annual (TPY)[a]
Particulate Matter (PM)	0.7	Permit Limit	3.07
Particulate Matter (PM_{10})	0.63	90% of PM	2.76
Sulfur Dioxide (SO_2)	0.64	Footnote b	2.80
Nitrogen Oxides (NO_x)	3.0	Footnote c	13.14
Carbon Monoxide (CO)	3.0	Footnote c	13.14
VOC	1.0	Permit Limit	4.38

[a] Based on 8,760 hours of operation.

[e] Average hourly rate. Based on stoichmetric calculation for conversion of sulfur into sulfur dioxide: 90 gal/hr x 0.05% x 7.1 lb/gal x 2 lb SO_2/lb sulfur = 0.64 lb/hr.

[c] Estimated emissions obtained from design information provided by BSP Thermal Systems, Inc.

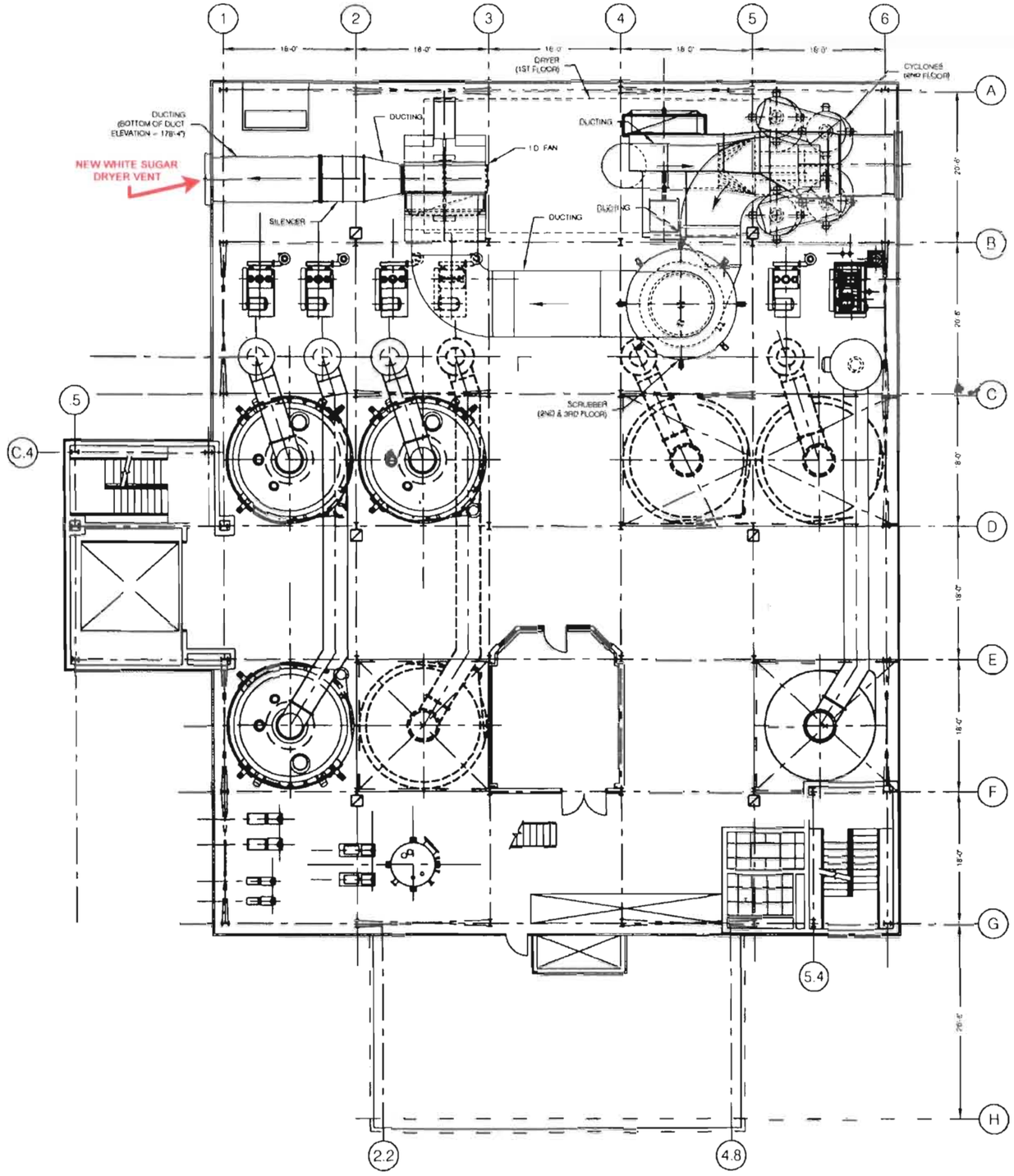
Table 2-3. Future Potential Emissions of Criteria Pollutants from Alcohol Usage in the Sugar Refinery (EU 021) at U. S. Sugar Corporation, Clewiston

Material	VOC Content (percent)	Maximum Gallons Used (gal/yr)	Pounds Used[a] (lb/yr)	VOC Emissions (TPY)
Isopropyl Alcohol	100	4,587	30,000	15.00

[a] The density of the isopropyl alcohol is 6.54 lb/gal.

Table 2-4. Summary of Potential Future Emissions from Sugar Refinery, U. S. Sugar Corporation, Clewiston

Source	EU No.	Source ID	Potential Emissions (TPY) PM	PM_{10}	SO_2	NO_x	CO	VOC	SAM
V.H.P. Sugar Dryer	015	S-11	7.12	7.12	0	0	0	0	0
White Sugar Dryer	016	S-10	6.28	6.28	0	0	0	0	0
New White Sugar Dryer		S-13	26.27	26.27	0	0	0	0	0
Vacuum Systems									
Screening and Distribution Vacuum	018	S-1	0.28	0.28	0	0	0	0	0
100 lb Bagging Vacuum System	019	S-2	0.28	0.28	0	0	0	0	0
5 lb Bagging Vacuum System	020	S-3	0.28	0.28	0	0	0	0	0
Conditioning Silos									
Conditioning Silo No. 2	019	S-7	0.25	0.25	0	0	0	0	0
Conditioning Silo No. 4	020	S-8	0.25	0.25	0	0	0	0	0
Conditioning Silo No. 6	021	S-9	0.25	0.25	0	0	0	0	0
Screening, Distribution, Packaging, Powdered Sugar/Starch									
Screening and Distribution #1	020	S-5	0.25	0.25	0	0	0	0	0
Screening and Distribution #2	021	S-6	0.82	0.82	0	0	0	0	0
Sugar Packaging Baghouse									
Packing Dust Collector	022	S-4	0.90	0.90	0	0	0	0	0
Granular Carbon Furnace	017	S-12	3.07	2.76	2.80	13.14	13.14	4.38	0.172
Alcohol Usage	021		0	0	0	0	0	15.00	0
TOTAL ALL REFINERY SOURCES			46.30	45.99	2.80	13.14	13.14	19.38	0.172



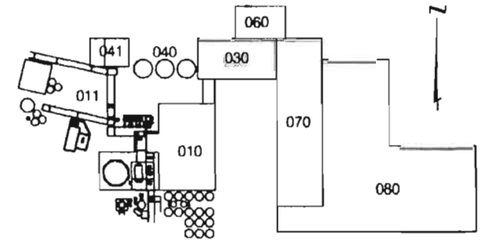
PLAN - REFINERY PROCESS BUILDING

LEGEND

NEW

EXIST

VALLEY ENGINEERING, inc.



KEY PLAN

Figure 2-1

UNITED STATES SUGAR CORPORATION
REFINERY - CLEWISTON
SUGAR HOUSE ENGINEER DEPARTMENT

SCRUBBER GENERAL ARRANGEMENT
REFINERY PROCESS BUILDING

REV	DATE	DESCRIPTION	BY	DRAWN BY: JLW	SCALE: 1/8" = 1'-0"	DRAWING No.
-	-	-	-	COMP NAME: G-010-005A	DATE: 6/25/04	SCRUBBER

0437583/4/4.2/Figure 2-1_scrubber.psd

3.0 AIR QUALITY REVIEW REQUIREMENTS AND APPLICABILITY

Federal and state air regulatory requirements for a new source of air pollution are discussed in Sections 3.1 to 3.4. The applicability of these regulations to the proposed White Sugar Dryer No. 2 is presented in Section 3.5. These regulations must be satisfied before the proposed project can be approved.

3.1 NATIONAL AND STATE AAQS

The existing applicable national and Florida Ambient Air Quality Standards (AAQS) are presented in Table 3-1. Primary national AAQS were promulgated to protect the public health, and secondary national AAQS were promulgated to protect the public welfare from any known or anticipated adverse effects associated with the presence of pollutants in the ambient air. Areas of the country in violation of AAQS are designated as nonattainment areas, and new sources to be located in or near these areas may be subject to more stringent air permitting requirements.

Florida has adopted state AAQS in Rule 62-204.240. These standards are the same as the national AAQS, except in the case of SO_2. For SO_2, Florida has adopted the former 24-hour secondary standard of 260 $\mu g/m^3$, and former annual average secondary standard of 60 micrograms per cubic meter ($\mu g/m^3$).

3.2 PREVENTION OF SIGNIFICANT DETERIORATION (PSD) REQUIREMENTS

3.2.1 GENERAL REQUIREMENTS

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

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

amounts greater than the PSD significant emission rates is subject to PSD review. For an existing source for which a modification is proposed, the modification is subject to PSD review if the net increase in emissions due to the modification is greater than the PSD significant emission rates. The PSD significant emission rates are shown in Table 3-2.

EPA has promulgated as regulations limits to increases above an air quality baseline concentration level of SO_2, PM_{10}, and NO_2 concentrations that would constitute significant deterioration. The EPA class designations and allowable PSD increments are presented in Table 3-1. The magnitude of the allowable increment depends on the classification of the area in which a new source (or modification) will be located or have an impact. Three classifications are designated based on criteria established in the Clean Air Act (CAA) Amendments. Congress promulgated areas as Class I (international parks, national wilderness areas, and memorial parks larger than 5,000 acres, and national parks larger than 6,000 acres) or as Class II (all areas not designated as Class I). No Class III areas, which would be allowed greater deterioration than Class II areas, were designated. The State of Florida has adopted the EPA class designations and allowable PSD increments for SO_2, PM_{10}, and NO_2 increments.

PSD review is used to determine whether significant air quality deterioration will result from the new or modified facility. Federal PSD requirements are contained in 40 CFR 52.21, Prevention of Significant Deterioration of Air Quality. The State of Florida has adopted the federal PSD regulations by reference (Rule 62-212.400, F.A.C.). Major facilities and major modifications are required to undergo the following analysis related to PSD for each pollutant emitted in significant amounts:

1. Control technology review,
2. Source impact analysis,
3. Air quality analysis (monitoring),
4. Source information, and
5. Additional impact analyses.

In addition to these analyses, a new facility also must be reviewed with respect to Good Engineering Practice (GEP) stack height regulations. Discussions concerning each of these requirements are presented in the following sections.

3.2.2 CONTROL TECHNOLOGY REVIEW

The control technology review requirements of the federal and state PSD regulations require that all applicable federal and state emission-limiting standards be met, and that Best Available Control Technology (BACT) be applied to control emissions from the source. The BACT requirements are applicable to all regulated pollutants for which the increase in emissions from the facility exceeds the significant emission rate (see Table 3-2).

BACT is defined in 40 CFR 52.21 (b)(12), as:

> An emissions limitation (including a visible emission standard) based on the maximum degree of reduction of each pollutant subject to regulation under the Act which would be emitted by any proposed major stationary source or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant, which would exceed the emissions allowed by any applicable standard under 40 CFR Parts 60 and 61. If the Administrator determines that technological or economic limitations on the application of measurement methodology to a particular part of a source or facility would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reductions achievable by implementation of such design, equipment, work practice, or operation and shall provide for compliance by means, which achieve equivalent results.

BACT was promulgated within the framework of the PSD requirements in the 1977 amendments of the CAA [Public Law 95-95; Part C, Section 165(a)(4)]. The primary purpose of BACT is to optimize consumption of PSD air quality increments and thereby enlarge the potential for future economic growth without significantly degrading air quality (EPA, 1978; 1980). Guidelines for the

evaluation of BACT can be found in EPA's *Guidelines for Determining Best Available Control Technology (BACT)* (EPA, 1978) and in the *PSD Workshop Manual* (EPA, 1980). These guidelines were promulgated by EPA to provide a consistent approach to BACT and to ensure that the impacts of alternative emission control systems are measured by the same set of parameters. In addition, through implementation of these guidelines, BACT in one area may not be identical to BACT in another area. According to EPA (1980), "BACT analyses for the same types of emissions unit and the same pollutants in different locations or situations may determine that different control strategies should be applied to the different sites, depending on site-specific factors. Therefore, BACT analyses must be conducted on a case-by-case basis."

The BACT requirements are intended to ensure that the control systems incorporated in the design of a proposed facility reflect the latest in control technologies used in a particular industry and take into consideration existing and future air quality in the vicinity of the proposed facility. BACT must, as a minimum, demonstrate compliance with new source performance standards (NSPS) for a source (if applicable). An evaluation of the air pollution control techniques and systems, including a cost-benefit analysis of alternative control technologies capable of achieving a higher degree of emission reduction than the proposed control technology, is required. The cost-benefit analysis requires the documentation of the materials, energy, and economic penalties associated with the proposed and alternative control systems, as well as the environmental benefits derived from these systems. A decision on BACT is to be based on sound judgment, balancing environmental benefits with energy, economic, and other impacts (EPA, 1978).

Historically, a "bottom-up" approach consistent with the BACT Guidelines and PSD Workshop Manual has been used. With this approach, an initial control level, which is usually NSPS, is evaluated against successively more stringent controls until a BACT level is selected. However, EPA developed a concern that the bottom-up approach was not providing the level of BACT decisions originally intended. As a result, in December 1987, the EPA Assistant Administrator for Air and Radiation mandated changes in the implementation of the PSD program, including the adoption of a new "top-down" approach to BACT decision making.

The top-down BACT approach essentially starts with the most stringent (or top) technology and emissions limit that have been applied elsewhere to the same or a similar source category. The

applicant must next provide a basis for rejecting this technology in favor of the next most stringent technology or propose to use it. Rejection of control alternatives may be based on technical or economic infeasibility. Such decisions are made on the basis of physical differences (e.g., fuel type), locational differences (e.g., availability of water), or significant differences that may exist in the environmental, economic, or energy impacts. The differences between the proposed facility and the facility on which the control technique was applied previously must be justified.

EPA has issued a draft guidance document on the top-down approach entitled *Top-Down Best Available Control Technology Guidance Document* (EPA, 1990). This document has not yet been issued as final guidance or as rule. EPA has also published the document entitled *OAQPS Cost Control Manual* (EPA, 1996) to assist industry and regulators is estimating capital and annual costs of pollution control equipment.

3.2.3 SOURCE IMPACT ANALYSIS

A source impact analysis must be performed for a proposed major source or major modification subject to PSD review, and for each pollutant for which the increase in emissions exceeds the PSD significant emission rate (Table 3-2). The PSD regulations specifically provide for the use of atmospheric dispersion models in performing impact analyses, estimating baseline and future air quality levels, and determining compliance with AAQS and allowable PSD increments. Designated EPA models normally must be used in performing the impact analysis. Specific applications for other than EPA-approved models require EPA's consultation and prior approval. Guidance for the use and application of dispersion models is presented in the EPA publication *Guideline on Air Quality Models* (EPA, 2003).

To address compliance with AAQS and PSD Class II increments, a source impact analysis must be performed for the criteria pollutants. However, this analysis is not required for a specific pollutant if the net increase in impacts as a result of the new source or modification is below significant impact levels, as presented in Table 3-1. The significant impact levels are threshold levels that are used to determine the level of air impact analyses needed for the project. If the new or modified source's impacts are predicted to be less than significant, then the source's impacts are assumed not to have a significant adverse affect on air quality and additional modeling with other sources is not required. However, if the source's impacts are predicted to be greater than the significant impact levels,

additional modeling with other sources is required to demonstrate compliance AAQS and PSD increments.

EPA has proposed significant impact levels for Class I areas as follows:

•	SO_2	3-hour	-	1 $\mu g/m^3$
		24-hour	-	0.2 $\mu g/m^3$
		Annual	-	0.1 $\mu g/m^3$
•	PM_{10}	24- hour	-	0.3 $\mu g/m^3$
		Annual	-	0.2 $\mu g/m^3$
•	NO_2	Annual	-	0.1 $\mu g/m^3$

Although these levels have not been officially promulgated as part of the PSD review process and may not be binding for states in performing PSD review, the proposed levels serve as a guideline in assessing a source's impact in a Class I area. The EPA action to incorporate Class I significant impact levels in the PSD process is part of implementing NSR provisions of the 1990 CAA Amendments. Because the process of developing the regulations will be lengthy, EPA believes that the proposed rules concerning the significant impact levels is appropriate in order to assist states in implementing the PSD permit process.

Various lengths of record for meteorological data can be used for impact analysis. A 5-year period is normally used with corresponding evaluation of highest, second-highest short-term concentrations for comparison to AAQS or PSD increments. The meteorological data are selected based on an evaluation of measured weather data from a nearby weather station that represents weather conditions at the project site. The criteria used in this evaluation include determining the distance of the project site to the weather station; comparing topographical and land use features between the locations; and determining availability of necessary weather parameters. The selection of the weather data is normally discussed with and approved by the regulatory agency reviewing the air permit application prior to initiating air modeling.

The term "highest, second-highest" (HSH) refers to the highest of the second-highest concentrations at all receptors (i.e., the highest concentration at each receptor is discarded). The second-highest concentration is important because short-term AAQS specify that the standard should not be

exceeded at any location more than once a year. If fewer than 5 years of meteorological data are used in the modeling analysis, the highest concentration at each receptor normally must be used for comparison to air quality standards.

The term "baseline concentration" evolves from federal and state PSD regulations and refers to a concentration level corresponding to a specified baseline date and certain additional baseline sources. By definition, in the PSD regulations as amended August 7, 1980, baseline concentration means the ambient concentration level that exists in the baseline area at the time of the applicable baseline date. A baseline concentration is determined for each pollutant for which a baseline date is established and includes:

1. The actual emissions representative of facilities in existence on the applicable baseline date; and
2. The allowable emissions of major stationary facilities that commenced construction before January 6, 1975, for SO_2 and PM_{10} concentrations, or February 8, 1988, for NO_2 concentrations, but that were not in operation by the applicable baseline date.

The following emissions are not included in the baseline concentration and, therefore, affect PSD increment consumption:

1. Actual emissions from any major stationary facility on which construction commenced after January 6, 1975, for SO_2 and PM_{10} concentrations, and after February 8, 1988, for NO_2 concentrations; and
2. Actual emission increases and decreases at any stationary facility occurring after the baseline date.

In reference to the baseline concentration, the term "baseline date" actually includes three different dates:

1. The major facility baseline date, which is January 6, 1975, in the cases of SO_2 and PM_{10}, and February 8, 1988, in the case of NO_2;
2. The minor facility baseline date, which is the earliest date after the trigger date on which a major stationary facility or major modification subject to PSD regulations submits a complete PSD application; and

3. The trigger date, which is August 7, 1977, for SO_2 and PM_{10}, and February 8, 1988, for NO_2.

3.2.4 AIR QUALITY MONITORING REQUIREMENTS

In accordance with requirements of 40 CFR 52.21(m), any application for a PSD permit must contain an analysis of continuous ambient air quality data in the area affected by the proposed major stationary facility or major modification. For a new major facility, the affected pollutants are those that the facility potentially would emit in significant amounts. For a major modification, the pollutants are those for which the net emissions increase exceeds the significant emission rate (see Table 3-2).

Ambient air monitoring for a period of up to 1 year generally is appropriate to satisfy the PSD monitoring requirements. A minimum of 4 months of data is required. Existing data from the vicinity of the proposed source may be used if the data meet certain quality assurance requirements; otherwise, additional data may need to be gathered. Guidance in designing a PSD monitoring network is provided in EPA's *Ambient Monitoring Guidelines for Prevention of Significant Deterioration* (EPA, 1987).

The regulations include an exemption that excludes or limits the pollutants for which an air quality analysis must be conducted. This exemption states that FDEP may exempt a proposed major stationary facility or major modification from the monitoring requirements with respect to a particular pollutant if the emissions increase of the pollutant from the facility or modification would cause, in any area, air quality impacts less than the *de minimis* levels presented in Table 3-2.

3.2.5 SOURCE INFORMATION/GOOD ENGINEERING PRACTICE STACK HEIGHT

Source information must be provided to adequately describe the proposed project. The general type of information required for this project is presented in Section 2.0.

The 1977 CAA Amendments require that the degree of emission limitation required for control of any pollutant not be affected by a stack height that exceeds GEP or any other dispersion technique. On July 8, 1985, EPA promulgated final stack height regulations (EPA, 1985a). The FDEP has

adopted identical regulations (Rule 62-210.550, F.A.C.). GEP stack height is defined as the highest of:

1. 65 meters (m); or
2. A height established by applying the formula:

$$Hg = H + 1.5L$$

where: Hg = GEP stack height,
H = Height of the structure or nearby structure, and
L = Lesser dimension (height or projected width) of nearby structure(s); or

3. A height demonstrated by a fluid model or field study.

"Nearby" is defined as a distance up to five times the lesser of the height or width dimensions of a structure or terrain feature, but not greater than 0.8 kilometer (km). Although GEP stack height regulations require that the stack height used in modeling for determining compliance with AAQS and PSD increments not exceed the GEP stack height, the actual stack height may be greater.

The stack height regulations also allow increased GEP stack height beyond that resulting from the above formula in cases where plume impaction occurs. Plume impaction is defined as concentrations measured or predicted to occur when the plume interacts with elevated terrain. Elevated terrain is defined as terrain that exceeds the height calculated by the GEP stack height formula.

3.2.6 ADDITIONAL IMPACT ANALYSIS

In addition to air quality impact analyses, federal and State of Florida PSD regulations require analyses of the impairment to visibility and the impacts on soils and vegetation that would occur as a result of the proposed source [40 CFR 52.21(o); Rule 62-212.400]. These analyses are to be conducted primarily for PSD Class I areas. Impacts as a result of general commercial, residential, industrial, and other growth associated with the source also must be addressed. These analyses are required for each pollutant emitted in significant amounts (Table 3-2).

3.2.7 LIMITED PSD REVIEW

An exemption from much of the PSD review requirements is contained in Rule 62-212.400(3)(d). This rule provides that facilities that have been in existence since March 1, 1978 and that are subject

to preconstruction review for a proposed modification that results in a net emissions increase of all pollutants listed in Table 212.440-2, Regulated Air Pollutants –Significant Emission Rates, F.A.C., of less than 50 TPY after the application of BACT, are exempt form the requirements of Rule 62-212.400(5)(d), (e), (f), and (g), F.A.C. This exempts such modifications from all requirements of PSD review, except for the BACT review, for all pollutants that exceed the PSD significant emission rate.

3.3 NONATTAINMENT RULES

Based on the current nonattainment provisions, all major new facilities and modifications to existing major facilities located in a nonattainment area must undergo nonattainment review. A new major facility is required to undergo this review if the proposed pieces of equipment have the potential to emit 100 TPY or more of the nonattainment pollutant.

3.4 EMISSION STANDARDS

3.4.1 NEW SOURCE PERFORMANCE STANDARDS

The NSPS are a set of national emission standards that apply to specific categories of new sources. As stated in the CAA Amendments of 1977, these standards "shall reflect the degree of emission limitation and the percentage reduction achievable through application of the best technological system of continuous emission reduction the Administrator determines has been adequately demonstrated." The NSPS are codified in 40 CFR Part 60. There are no NSPS that apply to the proposed White Sugar Dryer No. 2.

3.4.2 FLORIDA RULES

FDEP emission regulations applicable to sugar dryers are contained in Rule 62-296.320(4). These rules require that PM emissions not exceed the process weight table limit, and that visible emissions be limited to 20 percent opacity (6-minute average).

3.5 PSD APPLICABILITY

3.5.1 AREA CLASSIFICATION

The project site is located in Hendry County, which has been designated by EPA and FDEP as an attainment area for all criteria pollutants. Hendry County and surrounding counties are designated as

PSD Class II areas for SO_2, PM(TSP), and NO_2. The nearest Class I area to the site is the Everglades National Park (ENP), located about 102 km (60 miles) south of the Clewiston Mill site.

3.5.2 PSD REVIEW

Pollutant Applicability

The existing U.S. Sugar Clewiston Mill is considered to be a "major existing facility" because the annual emissions of several regulated pollutants from the mill are greater than 250 TPY. Therefore, PSD review is required for any modification which results in a net increase in emissions greater than the PSD significant emission rates.

U.S. Sugar is proposing to construct a new White Sugar Dryer to be located in the sugar refinery. As a result of this project, the overall production rate of the refinery may increase (i.e., be debottlenecked). PSD regulations require that the past actual emissions of all affected sources be compared to future potential emissions to determine PSD applicability.

Past actual (baseline) emissions for the Clewiston sugar refinery are shown in Tables B-1 through B-7 in Appendix B. The past actual annual emissions are based on the last 2 years (2002 and 2003) of actual operation of the sugar refinery. Future potential emissions from the modified sugar refinery were presented in Tables 2-1 through 2-4.

Presented in Table 3-3 is a comparison of past actual emissions to future maximum emissions from the sugar mill refinery after the addition of the proposed new white sugar dryer. As shown on Table 3-3, the potential increase in emissions due to the proposed project exceeds the PSD significant emission rates for PM and PM_{10} As a result, PSD review applies for these pollutants.

As described in Section 3.2.7, the PSD rules provide an exemption form certain PSD review requirements. The proposed White Sugar Dryer No. 2 project is subject to a limited PSD review [Rule 62-212.400(3)(d)] since the Clewiston Mill was in existence on March 1, 1978, and the proposed modification results in a net emissions increase of all pollutants listed in Table 212.440-2, Regulated Air Pollutants – Significant Emission Rates, F.A.C., of less than 50 TPY after the application of BACT. Therefore, the proposed project is exempt from the requirements of

Rule 62-212.400(5)(d), (e), (f), and (g), F.A.C. This exempts the proposed project from all requirements of PSD review except for the BACT review.

Since the existing sugar refinery sources will not be physically modified and will not undergo a change in the method of operation as a result of the project, BACT only applies to the new White Sugar Dryer No. 2 [refer to 40 CFR 52.21(j)(3)]. The BACT review is presented in Section 4.0.

3.5.3 NONATTAINMENT REVIEW

The project site is located in Hendry County, which is classified as an attainment area for all criteria pollutants. Therefore, nonattainment requirements are not applicable.

Table 3-1. National and State AAQS, Allowable PSD Increments, and Significant Impact Levels ($\mu g/m^3$)

Pollutant	Averaging Time	AAQS			PSD Increments		Class II
		National Primary Standard	National Secondary Standard	State of Florida	Class I	Class II	Significant Impact Levels[d]
Particulate Matter[a]	Annual Arithmetic Mean	50	50	50	4	17	1
(PM_{10})	24-Hour Maximum[b]	150[b]	150[b]	150[b]	8	30	5
Sulfur Dioxide	Annual Arithmetic Mean	80	NA	60	2	20	1
	24-Hour Maximum[e]	365[b]	NA	260[b]	5	91	5
	3-Hour Maximum[b]	NA	1,300[b]	1,300[b]	25	512	25
Carbon Monoxide	8-Hour Maximum[b]	10,000[b]	10,000[b]	10,000[b]	NA	NA	500
	1-Hour Maximum[b]	40,000[b]	40,000[b]	40,000[b]	NA	NA	2,000
Nitrogen Dioxide	Annual Arithmetic Mean	100	100	100	2.5	25	1
Ozone[a]	1-Hour Maximum	235[c]	235[c]	235[c]	NA	NA	NA
	1-Hour Maximum	235	235	NA	NA	NA	NA
Lead	Calendar Quarter Arithmetic Mean	1.5	1.5	1.5	NA	NA	NA

Note: NA = Not applicable, *i.e.*, no standard exists.

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

[a] On July 18, 1997, EPA promulgated revised AAQS for particulate matter and ozone. For particulate matter, $PM_{2.5}$ standards were introduced with a 24-hour standard of 65 $\mu g/m^3$ (3-year average of 98th percentile) and an annual standard of 15 $\mu g/m^3$ (3-year average at community monitors). Implementation of these standards could be many years away. The ozone standard was modified to be 0.08 ppm for 8-hour average; achieved when 3-year average of 99th percentile is 0.08 ppm or less. FDEP has not yet adopted either of these standards.

[b] Short-term maximum concentrations are not to be exceeded more than once per year except for the PM_{10} AAQS (these do not apply to significant impact levels). The PM_{10} 24-hour AAQS is attained when the expected number of days per year with a 24-hour concentration above 150 $\mu g/m^3$ is equal to or less than 1. For modeling purposes, compliance is based on the sixth-highest 24-hour average value over a 5-year period.

[c] Achieved when the expected number of days per year with concentrations above the standard is fewer than 1.

[d] Maximum concentrations.

Sources: Federal Register, Vol. 43, No. 118, June 19, 1978; 40 CFR 50; 40 CFR 52.21; Rule 62-204, F.A.C.

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

Pollutant	Significant Emission Rate (TPY)	De Minimis Monitoring Concentration[a] ($\mu g/m^3$)
Sulfur Dioxide	40	13, 24-hour
Particulate Matter [PM(TSP)]	25	NA
Particulate Matter (PM_{10})	15	10, 24-hour
Nitrogen Dioxide	40	14, annual
Carbon Monoxide	100	575, 8-hour
Volatile Organic Compounds (Ozone)	40	100 TPY[b]
Lead	0.6	0.1, 3-month
Sulfuric Acid Mist	7	NM
Total Fluorides	3	0.25, 24-hour
Total Reduced Sulfur	10	10, 1-hour
Reduced Sulfur Compounds	10	10, 1-hour
Hydrogen Sulfide	10	0.2, 1-hour
Mercury	0.1	0.25, 24-hour
Asbestos	0.007	NM
Vinyl Chloride	1	15, 24-hour
MWC Organics	3.5×10^{-6}	NM
MWC Metals	15	NM
MWC Acid Gases	40	NM
MSW Landfill Gases	50	NM

Note: Ambient monitoring requirements for any pollutant may be exempted if the impact of the increase in emissions is below *de minimis* monitoring concentrations.

NA = Not applicable.
NM = No ambient measurement method established; therefore, no *de minimis* concentration has been established.
$\mu g/m^3$ = Micrograms per cubic meter.
MWC = Municipal waste combustor
MSW = Municipal solid waste

[a] Short-term concentrations are not to be exceeded.
[b] No *de minimis* concentration; an increase in VOC emissions of 100 TPY or more will require monitoring analysis for ozone.

Sources: 40 CFR 52.21.
Rule 62-212.400

Table 3-3. New White Sugar Dryer No. 2 PSD Source Applicability Analysis, U.S. Sugar Corporation, Clewiston

	Baseline Emissions [a]				Future Potential Emissions				Net Change In	PSD	
Regulated Pollutant	Sugar Refinery Baghouses (TPY)	Granular Carbon Furnace (TPY)	Alcohol Usage (TPY)	Total (TPY)	Sugar Refinery Baghouses (TPY)	Granular Carbon Furnace (TPY)	Alcohol Usage (TPY)	Total (TPY)	Emissions Due to Proposed Project (TPY)	Significant Emission Rate (TPY)	PSD Review Triggered?
Particulate Matter (Total)	11.45	1.82	0	13.26	43.23	3.07	0	46.30	33.03	25	Yes
Particulate Matter (PM_{10})	11.45	1.63	0	13.08	43.23	2.76	0	45.99	32.91	15	Yes
Sulfur Dioxide	0	1.05	0	1.05	0	2.80	0	2.80	1.75	40	No
Nitrogen Oxides	0	10.13	0	10.13	0	13.14	0	13.14	3.01	40	No
Carbon Monoxide	0	10.13	0	10.13	0	13.14	0	13.14	3.01	100	No
VOC	0	1.24	3.13	4.37	0	4.38	15.00	19.38	15.01	40	No
Sulfuric Acid Mist	0	0.064	0	0.064	0	0.172	0	0.172	0.107	7	No

[a] Actual emissions based on the average emissions for 2002 and 2003.

PM_{10} = Particulate Matter with aerodynamic diameter less than or equal to 10 microns
VOC = Volatile Organic Compounds

4.0 BEST AVAILABLE CONTROL TECHNOLOGY ANALYSIS

4.1 REQUIREMENTS

The 1977 CAA Amendments established requirements for the approval of pre-construction permit applications under the PSD program. As discussed in Section 3.2.2, one of these requirements is that BACT be installed for applicable pollutants. BACT determinations must be made on a case-by-case basis considering technical, economic, energy, and environmental impacts for various BACT alternatives. To bring consistency to the BACT process, the EPA developed the "top-down" approach to BACT determinations.

The first step in a top-down BACT analysis is to determine, for each applicable pollutant, the most stringent control alternative available for a similar source or source category. If it can be shown that this level of control is not feasible on the basis of technical, economic, energy, or environmental impacts for the source in question, then the next most stringent level of control is identified and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any technical, economic, energy, or environmental consideration.

In the case of the proposed project, only PM/PM_{10} emissions from the White Sugar Dryer No. 2 require a BACT analysis. The BACT analysis is presented in the following section.

4.2 PARTICULATE MATTER (PM/PM_{10})

4.2.1 PROPOSED CONTROL TECHNOLOGY

Emissions of PM/PM_{10} from White Sugar Dryer No. 2 will occur due to entrainment of sugar dust particles in the air used for drying/cooling of the white sugar. The fluidized bed dryer/cooler uses a large air flow (105,000 acfm; 96,000 dscfm) to perform the necessary operations. The proposed BACT for PM/PM_{10} is based on the following control techniques:

- High efficiency cyclone dust collectors (4); and
- Wet scrubber.

The proposed maximum PM/PM_{10} emissions for the White Sugar Dryer No. 2 are 0.00729 gr/dscf. This equates to maximum PM/PM_{10} emissions 6.0 lb/hr and 26.3 TPY.

4.2.2 BACT ANALYSIS

Previous BACT Determinations

As part of the BACT analysis, a review was performed of previous PM/PM_{10} BACT determinations dryers and coolers in the agricultural products category, as listed in the RACT/BACT/LAER Clearinghouse on EPA's web page. A summary of BACT determinations for these sources from this review are presented in Table 4-1. Determinations issued during the last 10 years are shown in the table.

From the review of Table 4-1, previous BACT determinations for agricultural products, dryers, and coolers have typically been based on rotoclones, baghouses, or wet scrubbers. Control efficiencies have generally been in the range of 98 percent for rotoclones to 99.8 percent for baghouses. Most of these determinations were not based on emissions in terms of exhaust grain loading. The two that were, both wet scrubber controls, specified an exhaust grain loading of 0.02 gr/dscf.

Control Technology Feasibility

The technically feasible PM/PM_{10} controls for the proposed White Sugar Dryer are listed in Table 4-2. As shown, there are five types of PM/PM_{10} abatement methods with various techniques of each method. Each available technique is listed in Table 4-2, with its associated efficiency estimate, identified as feasible or infeasible, and rank based on control efficiency.

Potential Control Method Descriptions

Fuel Techniques

Fuel substitution, or fuel switching, is a common means of reducing emissions from combustion sources, such as electric utilities and industrial boilers. It involves replacing the current fuel with a fuel that emits less of a given pollutant when burned.

For fuel substitution to be practical, there must be a suitable replacement fuel available at an acceptable cost. In the case of the proposed White Sugar Dryer No. 2, no fuel is used in the process. Steam is used to supply heat for drying. Therefore, fuel substitution is not a feasible alternative.

Pretreatment Devices

The performance of particulate control devices can often be improved through pretreatment of the gas stream. For PM control devices, pretreatment consists of the following techniques:

- Settling Chambers;
- Elutriators;
- Momentum Separators;
- Mechanically-Aided Separators; and
- Cyclones.

Of these five techniques, cyclones offer the most control efficiency, typically in the range of 60 to 90 percent. All of the other techniques have control efficiencies less than 30 percent.

Cyclones use inertia to remove particles from a spinning gas stream. Within a cyclone, the gas stream is forced to spin within a usually conical-shaped chamber. The gas spirals down the cyclone near the inner surface of the cyclone tube. At the bottom of the cyclone, the gas turns and spirals up through the center of the tube and out the top of the cyclone.

Particles in the gas stream are forced toward the cyclone walls by centrifugal forces. For particles that are large, typically greater than 10 microns, inertial momentum overcomes the fluid drag forces so that the particles reach the cyclone walls and are collected. For smaller particles, the fluid drag forces are greater than the momentum forces and the particles follow the gas out of the cyclone. Inside the cyclone, gravity forces the large particles down the sidewalls of the cyclone to a hopper where they are collected.

Pretreatment devices are technically feasible for application to the White Sugar Dryer No. 2. U.S. Sugar will utilize four (4) high efficiency cyclones manufactured by Entoleter, with an estimated removal efficiency of 99 percent, based on the manufacturer's design data (see Appendix B). This will provide pretreatment before the gas stream enters the wet scrubber.

Electrostatic Precipitators (ESPs)

Collection of PM by electrostatic precipitators involves the ionization of the gas stream passing through the ESP, the charging, migration, and collection of particles on oppositely charged surfaces,

and the removal of particles form the collection surfaces. There are two basic types of ESPs, dry and wet. In dry ESPs, the particulate is removed by rappers, which vibrate the collection surface, dislodging the material and allowing it to fall into the collection hoppers. Wet ESPs use water to rinse the particulates off of the collection surfaces.

Electrostatic precipitators have several advantages when compared with other control devices. They are very efficient collectors, even for small particles, with greater than 97 percent control efficiency. ESPs can also treat large volumes of gas with a low pressure drop. ESPs can operate over a wide range of temperatures and generally have low operating cost. The disadvantages of ESPs are large capital cost, large space requirements, and difficulty in controlling particles with high resistivity.

ESPs are likely technically feasible for application to a sugar drying operation, however, there is no known application of an ESP to such a process. As a result, ESPs were not considered further in the BACT analysis.

Fabric Filters

Baghouses, or fabric filters, utilize porous fabric to clean an airstream. They include types such as reverse-air, shaker, and pulse-jet baghouses. The dust that accumulates on the surface of the filter aids in the filtering of fine dust particles. PM/PM_{10} control efficiencies for fabric filters are typically greater than 99 percent.

During fabric filtration, dusty gas is sent through the fabric by forced-draft fans. The fabric is responsible for some filtration, but more significantly it acts as support for the dust layer that accumulates. The layer of dust, also known as the filter cake, is a highly efficient filter, even for submicron particles. Woven fabrics rely on the filtration of the dust cake much more than felted fabrics.

Fabric filters offer high efficiencies, are flexible to treat many types of dusts, and can accommodate a wide range of volumetric gas flow rates. In addition, fabric filters can be operated with low pressure drops. Some potential disadvantages are:

- High-moisture gas streams and sticky particles can plug the fabric and blind the filter, requiring bag replacement;

- High temperatures can damage fabric bags; and
- Fabric filters have a potential for fire or explosion.

Fabric filters are considered technically feasible for application to the proposed White Sugar Dryer No. 2. The existing White Sugar Dryer No. 1 at the Clewiston refinery uses a baghouse for control. However, U.S. Sugar's experience with the baghouse control device on this application is that maintenance is high due to downtime caused by broken bags and other problems. The downtime results in lost production, lost revenue, increased maintenance activities, and increased maintenance costs. Serious concerns exist over the ability of a baghouse to operate as reliably as a wet scrubber, which would not suffer from these same problems. An economic analysis of the baghouse control device as compared to a wet scrubber for final PM/PM_{10} control is presented below.

Wet Scrubbers

Wet scrubbers are systems that involve particle collection by contacting the particles to a liquid, usually water. The aerosol particles are transferred from the gaseous airstream to the surface of the liquid by several different mechanisms. Wet scrubbers create a liquid waste that must be treated prior to disposal. PM/PM_{10} control efficiencies for wet scrubbing systems range from about 50 to 95 percent, depending on the type of scrubbing system used. Typical wet scrubbers are as follows:

- Spray Chamber,
- Packed-Bed,
- Impingement Plate,
- Mechanically-Aided,
- Venturi,
- Orifice, and
- Condensation.

The advantages of wet scrubbers compared to other PM collection devices are that they can collect flammable and explosive dusts safely, absorb gaseous pollutants, and collect mists. Scrubbers can also cool hot gas streams. The disadvantages are the potential for corrosion and freezing, the potential of water and solid waste pollution problems, and high energy costs.

Wet scrubbers are technically feasible for the proposed White Sugar Dryer No. 2. This device is well suited for this application due to minimal maintenance requirements and the ability to recycle the scrubber effluent directly back to the process to recover sugar product. U.S. Sugar is proposing to use an Entoleter Centrifield Vortex wet scrubber. The design of the scrubber is 96 percent removal of PM/PM_{10}, with an outlet dust loading of 0.005 gr/dscf (proposed limit for permitting purposes is 0.00729 gr/dscf). Although the wet scrubber would not provide a greater degree of PM emission reduction compared to a baghouse (the existing White Sugar Dryer No. 1 is permitted for a PM/PM_{10} limit of 0.0018 gr/dscf), the baghouse technology has resulted in increased downtime due to baghouse maintenance requirements.

Economic Analysis

U.S. Sugar is proposing to utilize four (4) high-efficiency cyclone dust collectors followed by a wet scrubber to control PM/PM_{10} emissions. As discussed previously, operating experience with a baghouse on the existing White Sugar Dryer No. 1 has indicated that the maintenance and associated downtime is very costly. A detailed economic analysis of the proposed cyclone/wet scrubber control system and alternative baghouse control system is presented in Tables 4-3 and 4-4.

The cost estimate for the proposed cyclones/wet scrubber system is presented in Table 4-3. The equipment costs are based on a quote from Entoleter LLC. Installation costs are based on standard EPA cost factors, where not included in the vendor quote. The total installed capital cost of the cyclone/wet scrubber system is $630,000.

Annual operating costs shown in Table 4-3 consist primarily of electricity, based on the gas flow rate and the design 14 inches of water column pressure drop for the system. Total annualized costs are estimated at $286,000.

The cost estimate for a baghouse control system is presented in Table 4-4. The equipment costs are based on a quote from BMA. Installation costs are based on standard EPA cost factors, where not included in the vendor quote. The total installed capital cost of the baghouse system is $676,000. This is only slightly higher than the installed capital cost of the cyclone/wet scrubber system.

Annual operating costs for the baghouse, shown in Table 4-4, include increased costs for maintenance labor, bag replacement costs, and lost production due to downtime. These costs are based directly on actual costs for the existing baghouse system serving the White Sugar Dryer No. 1 at the Clewiston Mill. The electricity costs are reduced compared to the cyclone/wet scrubber, due to the lower system pressure drop low rate of 5 inches of water column. Total annualized costs are estimated at $526,000.

As demonstrated, the annual cost of the baghouse system is approximately $240,000 per year higher than the proposed cyclone/wet scrubber system. The maximum PM/PM_{10} emissions with the baghouse are 6.6 TPY, compared to 26.3 with the cyclones/wet scrubber. This represents an incremental cost effectiveness for the baghouse of over $12,000 per ton of PM/PM_{10} removed, calculated as follows:

$240,000/yr ÷ (26.3-6.6) TPY = $12,183 per ton

The use of the baghouse for PM/PM_{10} control would result in an unacceptable economic burden for U.S. Sugar, for little benefit (20 TPY reduction) to the environment.

Environmental Impacts

No significant environmental impacts should result from use of either the cyclone/wet scrubber technology or the baghouse technology. The baghouse technology has lower energy requirements. Neither technology results in a waste stream as the received material is recycled back to the process.

4.2.3 BACT SELECTION

U.S. Sugar's proposed PM/PM_{10} technology and the emission limit is reasonable based on previous BACT determinations for similar dryers/coolers in the agricultural products industry. At least two such systems with wet scrubber controls have received BACT determinations of 0.02 gr/dscf, which is much higher than US. Sugar's proposed limit of 0.00729 gr/dscf. The use of a baghouse for PM/PM_{10} control would result in an unacceptable economic burden for U.S. Sugar, costing at least $240,000 per year more than the cyclones/wet scrubber system, for only a small benefit (20 TPY reduction) to the environment. Therefore, the proposed PM/PM_{10} BACT limit of 0.00729 lb/MMBtu and 6.0 lb/hr is based on the cyclone/wet scrubber combination.

This combination of control equipment will result in a high overall control efficiency. The cyclone and wet scrubber will result in greater than 99.5 percent reduction in uncontrolled PM/PM_{10} emissions.

Table 4-1. BACT Determinations for PM/PM_{10} for Other Food and Agricultural Products Sources--Dryers and Coolers

Company	State	RBLC ID	Permit Date	Source	Throughput	Emission Limits As Provided in LAER/BACT Clearinghouse	Control Equipment Description	Removal Efficiency %
Agrimark-Cabot Inc.--Middlebury	VT	VT-0012	1/3/2000	Whey Dryer	12 MMBtu/hr	0.02 gr/dscf	Venturi Followed by Wet Cyclonic Scrubber	--
Givaudan Flavors Corp.	OH	OH-0240	10/15/1998	Spray Dryer	500 lb/hr	0.41 lb/hr	Wet Cyclone Scrubber	--
Proctor and Gamble Manufacturing Co.	TN	TN-0111	3/19/1998	Dryer		0.06 lb/hr	Exclusive Use of Natural Gas	--
Brown & Williamson Tobacco Corp.	GA	GA-0072	1/12/1996	Redryer #2		0.34 lb/hr	Rotoclone	98
				Dryer/Cooler		0.51 lb/hr	Baghouse	99.8
				Stem Dryer		0.1 lb/hr	Rotoclone	98
				Redryer #1		1.23 lb/hr	Rotoclone	98
				Redryer #1		0.4 lb/hr	Rotoclone	98
				Redryer #1		0.5 lb/hr	Rotoclone	98
				Redryer #1		4.83 lb/hr	Rotoclone	98
				Stem Dryer		0.1 lb/hr	Rotoclone	98
				Stem Dryer		0.78 lb/hr	Rotoclone	98
				Redryer #2		0.93 lb/hr	Rotoclone	--
				Redryer #2		0.29 lb/hr	Rotoclone	98
				Redryer #2		0.93 lb/hr	Rotoclone	98
				Redryer #2		0.29 lb/hr	Rotoclone	98
				Redryer #2		2.75 lb/hr	Rotoclone	98
				Redryer #2		0.24 lb/hr	Rotoclone	98
				Tobacco Dryer		0.8 lb/hr	None	
				Dryer/Cooler		0.51 lb/hr	Baghouse	99.8
Recot, Inc.	CA	CA-0705	10/31/1995	Cooler	0.5 MMBtu/hr	0.16 lb/hr	High Velocity Dust Filter	--
Wyeth Nutritionals, Inc.	VT	VT-0011	10/27/1994	Whey Dryer	37,000 cfm	0.02 gr/dscf	Packed-Bed Scrubber	90

Reference: RACT/BACT/LAER Clearinghouse on EPA's Webpage, 2004.

Table 4-2. PM/PM_{10} Control Technolgy Feasibility Analysis for the Proposed White Sugar Dryer No. 2

PM Abatement Method	Technique Now Available	Estimated Efficiency	Feasible and Demonstrated? (Y/N)	Rank Based on Control Efficiency	Employed on WSD No. 2? (Y/N)
Fuel Techniques	Fuel Substitution	NA	N	NTF	N
Pretreatment	Settling Chambers	< 10%	Y	6	N
	Elutriators	< 10%	Y	6	N
	Momentum Separators	10 - 20%	Y	5	N
	Mechanically-Aided Separators	20 - 30%	Y	4	N
	Cyclones	60 - 99%	Y	3	Y
Electrostatic Precipitators (ESP)	Dry ESP	>99%	N	1	N
	Wet ESP	>99%	N	1	N
	Wire-Plate ESP	>99%	N	1	N
	Wire-Pipe ESP	>99%	N	1	N
Fabric Filters	Shaker-Cleaned	>99%	Y	1	N
	Reverse-Air	>99%	Y	1	N
	Pulse-Jet	>99%	Y	1	N
Wet Scrubbers	Spray Chambers	50 - 95 %	Y	2	N
	Packed-Bed	50 - 95 %	Y	2	N
	Impingement Plate	50 - 95 %	Y	2	N
	Mechanically-Aided	50 - 95 %	NTF	NTF	N
	Venturi	50 - 95 %	Y	2	Y
	Orifice	50 - 95 %	Y	2	N
	Condensation	50 - 95 %	Y	2	N

Note: NTF = Not Technically Feasible

Table 4-3. Cost Effectiveness of Venturi Scrubber for PM Control on the White Sugar Dryer

Cost Items	Cost Factors[a]	Cost Per Boiler ($)
DIRECT CAPITAL COSTS (DCC):		
Purchased Equipment Cost (PEC)		
Cyclones/Wet Scrubber	Vendor Quote[b]	441,000
ID Fan	Included	0
Recycle Pump	Included	0
Freight	5%	22,050
Taxes	Exempt in Florida	0
Total PEC:		463,050
Direct Installation Costs		
Foundation and Structure Support	Included in PEC	0
Handling & Erection	25% of PEC; Engineering Estimate	115,763
Electrical	8% of PEC	37,044
Piping	1% of PEC	4,631
Insulation for ductwork	Included in PEC	0
Painting	2% of PEC	9,261
Total Direct Installation Costs		166,698
Total DCC:		629,748
INDIRECT CAPITAL COSTS (ICC):		
Engineering	10% of PEC	46,305
Construction and field expense	10% of PEC; Engineering Estimate	46,305
Contractor Fees	5% of PEC	23,153
Startup & Performance test	2% of PEC	9,261
Contingencies	3% of PEC	13,892
Total ICC:		46,305
TOTAL CAPITAL INVESTMENT (TCI):	DCC + ICC	676,053
DIRECT OPERATING COSTS (DOC):		
(1) Operating Labor		
Operator	16 hours/week, $16/hr, 52 weeks/yr	13,312
Supervisor	15% of operator cost	1,997
(2) Maintenance	Engineering estimate, 1% PEC	4,631
(3) Electricity - Fan	266 kW/hr; $0.07/kW-hr, 8760 hr/yr	163,154
(4) Waste water disposal	Scrubber water recylced back to process.	0
Total DOC:		183,093
INDIRECT OPERATING COSTS (IOC):		
Overhead	60% of oper. labor & maintenance	11,964
Property Taxes	1% of total capital investment	6,761
Insurance	1% of total capital investment	6,761
Administration	2% of total capital investment	13,521
Total IOC:		39,006
CAPITAL RECOVERY COSTS (CRC):	CRF of 0.0944 times TCI (20 yrs @ 7%)	63,819
ANNUALIZED COSTS (AC):	DOC + IOC + CRC	285,919
BASELINE PM EMISSIONS (TPY) :	14 gr/dscf; 96,000 dscfm; 8,760 hr/yr	50,458
MAXIMUM PM EMISSIONS (TPY) :	0.00729 gr/dscf; 96,000 dscfm; 8,760 hr/yr	26.3
REDUCTION IN PM EMISSONS (TPY):		50,431
COST EFFECTIVENESS:	$ per ton of PM Removed	6

Footnotes:

[a] Unless otherwise specified, factors and cost estimates reflect OAQPS Cost Manual, Section 3, Sixth edition.

[b] Based on Entoleter LLC quote, July 2004.

Table 4-4. Cost Effectiveness of Baghouse Filter for PM Control on the White Sugar Dryer

Cost Items		Cost Factors[a]	Cost Per Boiler ($)
DIRECT CAPITAL COSTS (DCC):			
Purchased Equipment Cost (PEC)			
	Baghouse, Fan and Silencer	Vendor Quote[b]	445,000
	Ductwork to baghouse inlet and outlet	Included	0
	Electrical switchgear, motor control centers	Included	0
	Instruments and Controls	Included	0
	Freight	5% of equipment cost	22,250
	Taxes	Exempt in Florida	0
Total PEC:			467,250
Direct Installation Costs			
	Foundation and Structure Support	Included in PEC	0
	Handling & Erection	50% of PEC	233,625
	Electrical	8% of PEC	37,380
	Piping	1% of PEC	4,673
	Insulation for ductwork	Included in PEC	0
	Painting	4% of PEC	18,690
Total Direct Installation Costs			294,368
Total DCC:			761,618
INDIRECT CAPITAL COSTS (ICC):			
	Engineering	10% of PEC	46,725
	Construction and field expense	20% of PEC	93,450
	Contractor Fees	10% of PEC	46,725
	Startup & Performance test	2% of PEC	9,345
	Contingencies	3% of PEC	14,018
Total ICC:			70,088
TOTAL CAPITAL INVESTMENT (TCI):		DCC + ICC	831,705
DIRECT OPERATING COSTS (DOC):			
(1)	Operating Labor		
	Operator	2 hr/shift, 3 shifts/day, 16$/rh, 52 weeks/yr	34,944
	Supervisor	15% of operator cost	5,242
(2)	Maintenance	1hr/shift, 3 shifts/day, 16$/rh, 52 weeks/yr	17,472
(4)	Electricity	5 in H2O; 95 kW/hr; $0.07 per kwh	58,269
(5)	Compressed Air	2 acfm/1000 acfm; $0.25 per 1,000 acfm	27,594
(6)	Bag Replacement	Historical costs for existing dryer w/baghouse	75,000
(7)	Dust disposal	Dust is recycled to process	0
(8)	Lost production due to downtime	76 hr/yr; $51,000/day	161,500
Total DOC:			380,021
INDIRECT OPERATING COSTS (IOC):			
	Overhead	60% of oper. labor & maintenance	34,595
	Property Taxes	1% of total capital investment	8,317
	Insurance	1% of total capital investment	8,317
	Administration	2% of total capital investment	16,634
Total IOC:			67,863
CAPITAL RECOVERY COSTS (CRC):		CRF of 0.0944 times TCI (20 yrs @ 7%)	78,513
ANNUALIZED COSTS (AC):		DOC + IOC + CRC	526,397
BASELINE PM EMISSIONS (TPY) :		14 gr/dscf; 96,000 dscfm; 8,760 hr/yr	50,458
MAXIMUM PM EMISSIONS (TPY) :		0.001835 gr/dscf; 96,000 dscfm; 8,760 hr/yr	6.6
REDUCTION IN PM EMISSONS (TPY):			50,451
COST EFFECTIVENESS:		$ per ton of PM Removed	10

Footnotes:

[a] *Unless otherwise specified, factors and cost estimates reflect OAQPS Cost Manual, Section 3, Sixth edition.*

[b] Quote from BMA, July 29, 2004.

5.0 REFERENCES

U.S. Environmental Protection Agency. 1978. *Guidelines for Determining Best Available Control Technology (BACT).* Office of Air Quality Planning and Standards.

U. S .Environmental Protection Agency. 1980. *Prevention of Significant Deterioration Workshop Manual.*

U.S. Environmental Protection Agency. 1987. *Ambient Monitoring Guidelines for Prevention of Significant Deterioration.* EPA Report No. EPA 450/4-87-007

U.S. Environmental Protection Agency. 1990. *"Top-Down" Best Available Control Technology Guidance Document* (Draft). Research Triangle Park, North Carolina.

U.S. Environmental Protection Agency. 1999. Letter from P. Douglas Neeley, Chief Air and Radiation Technology Branch, EPA Region IV, Atlanta, GA (November 10, 1999).

U.S. Environmental Protection Agency. 2003. *Guidelines on Air Quality Models.* 40 CFR 51, Subpart W.

APPENDIX A

CONTROL EQUIPMENT INFORMATION
FOR PROPOSED WHITE SUGAR DRYER NO. 2

ENTOLETER LLC
251 Welton Street
Hamden, CT 06517 USA
Tel: 203-787-3575 Fax: 203-787-1492
www.entoleter.com

August 4, 2004

Mr. Donald H. Griffin
Manager Specialty Sugar
United States Sugar Corporation
1731 South W.C. Owen Avenue
Clewiston, FL 33440

RE: Scrubber Addition

Dear Mr. Griffin:

Based upon the following design conditions, we are recommending four (4) Model 6600 High Efficiency Cyclones, followed by the Centrifield Vortex Model 1500, per the attached schematics.

Inlet Gas Volume = 104,950 ACFM
Inlet Gas Temperature = 113 F
Inlet Dust Loading = 14 grains/cuft

Cyclone Inlet Volume = 96,000 SCFM

Cyclone Inlet Temperature = 113 F

Cyclone Inlet Dust Loading = 11,760lb

Pressure Drop across Cyclones = 6 inches WC

Scrubber Inlet Volume = 96,000 SCFM
Scrubber Inlet Temperature = 113 F

Scrubber Inlet Loading = 118 lb/hr

Scrubber Liquid Recirculation Rate = 500 GPM
Scrubber Blow Down Rate = 12 GPM

Scrubber Outlet Volume = 96,000 SCFM

Scrubber Outlet Dust Loading = 4.2lb/hr

We guarantee that the outlet dust loading will not exceed 0.005 grains/cubic foot for particular greater than 1 micron.

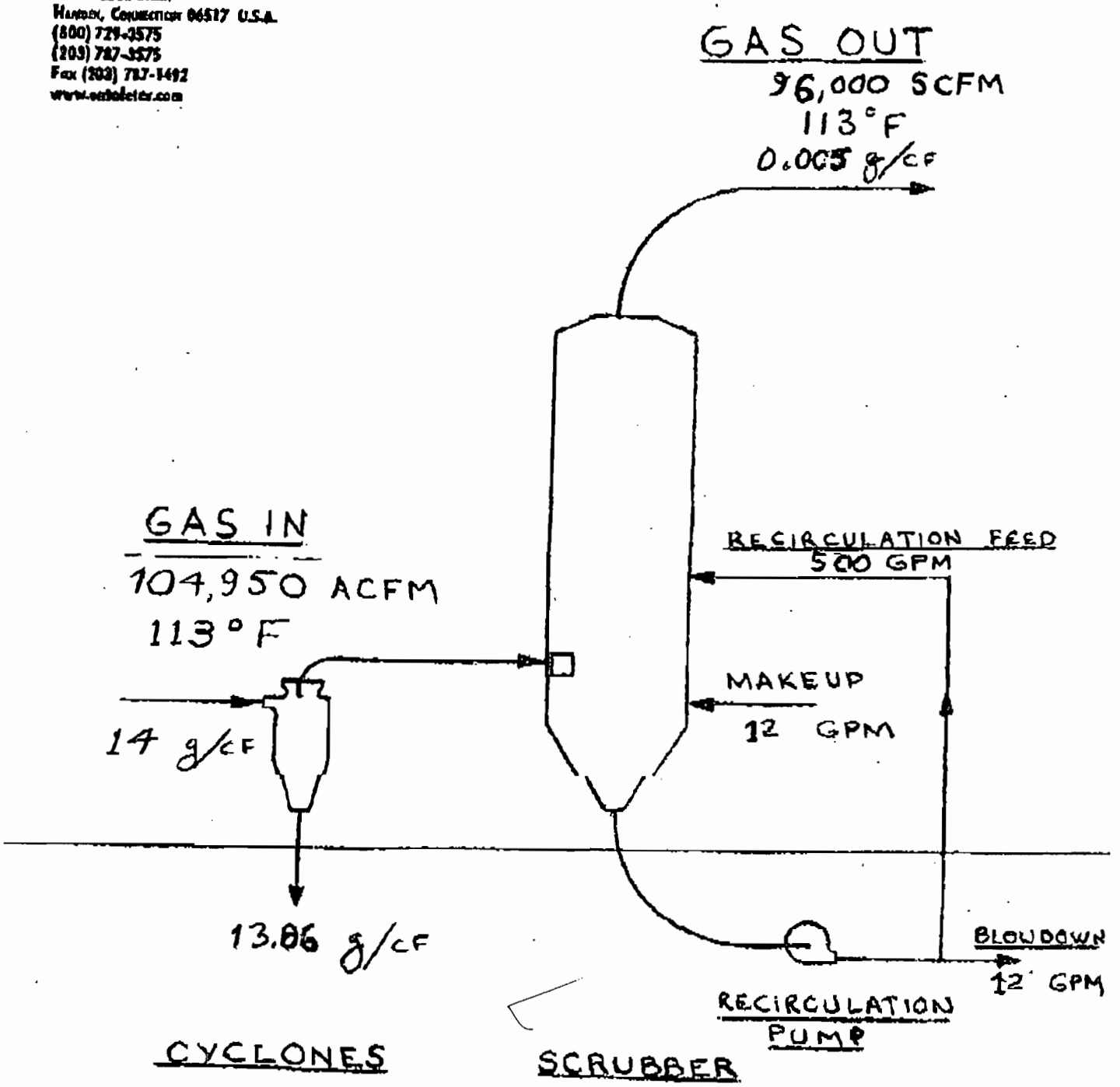
The cyclones will be located at an elevation 43 feet above grade on the second floor of the Refinery Process Building. The scrubber will be located on the second floor, at an elevation of 43 feet above grade, and extend through the third floor, at an elevation of 72 feet above grade, in the Refinery Process Building. The discharge ducting from the scrubber will be connected to the inlet of the ID fan, and discharged to the atmosphere through the west wall of the Refinery Process Building at an elevation of 78 feet 4 inches above grade. The exhaust duct dimensions are 84 inches X 72 inches.

The scheduled start up for this equipment is July 2005. Should you require any additional information, please let us know.

Sincerely,

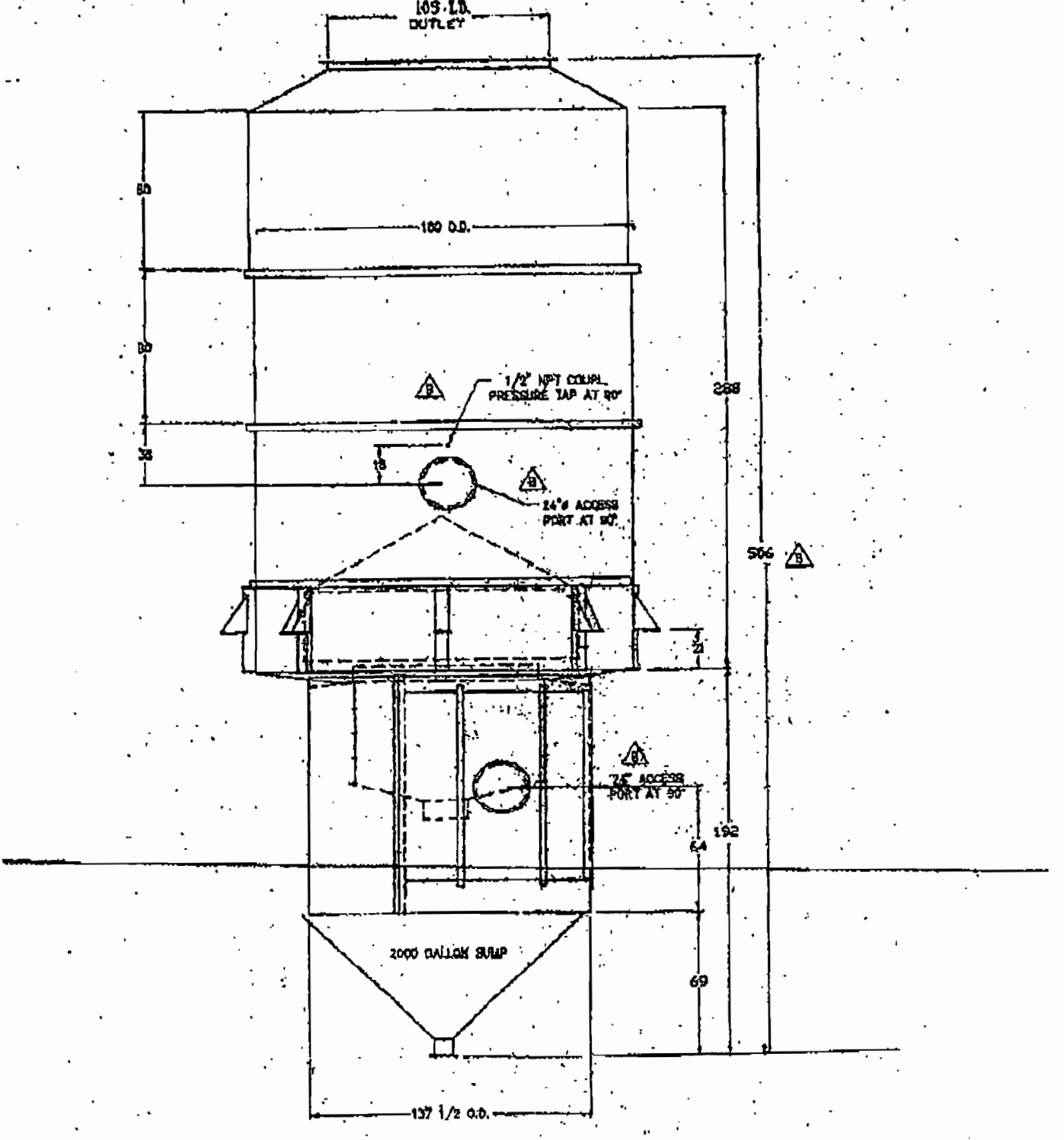
Dick Steinsvaag
Product Manager

ENTOLETER
251 Welton Street
Hamden, Connecticut 06517 U.S.A.
(800) 729-3575
(203) 787-3575
Fax (203) 787-1492
www.entoleter.com



US SUGAR EXPANSION

#4-1002B

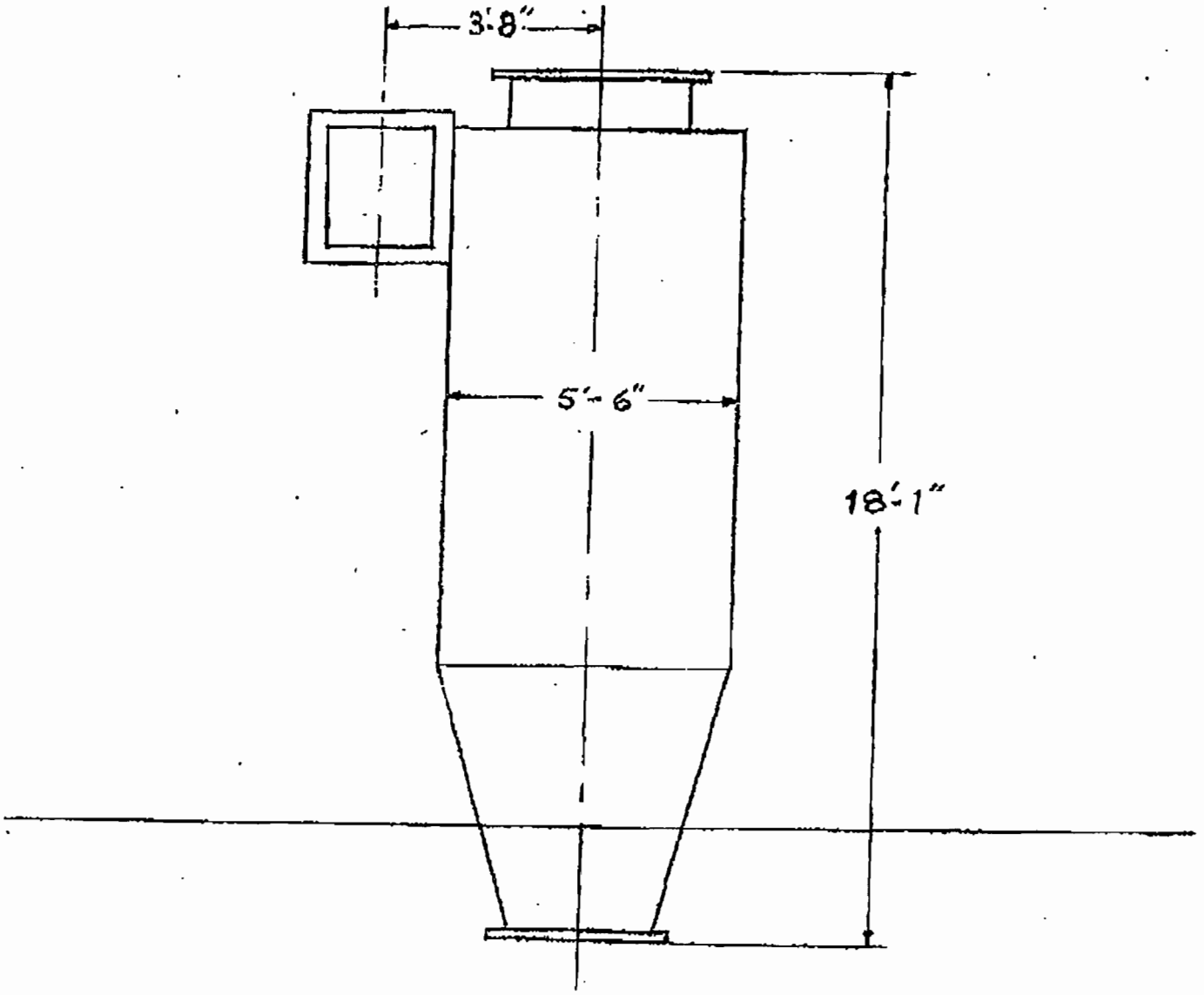


MODEL 1500 1

ENTOLETER LLC
251 Welton Street
Hamden CT 06517
USA

FROM :ENTOLETER FAX NO. :3034849422 Aug. 02 2004 09:45AM P6

ENTOLETER



CYCLONE

MODEL 6600

QUANITY-1

US SUGAR EXPANSION #4.10028

APPENDIX B

BASIS OF PAST ACTUAL EMISSIONS FOR SUGAR REFINERY

Table B-1. 2002 Emissions of Criteria Pollutants from the Sugar Refinery Baghouses at U.S. Sugar Corp., Clewiston

Source/Vent Name	EU No.	Source ID	Hours of Operation	PM/PM_{10} Emissions (lb/hr)[a]	PM/PM_{10} Emissions (TPY)
V.H.P. Sugar Dryer	015	S-11	3,600	1.63	2.93
White Sugar Dryer No. 1	016	S-10	7,416	1.44	5.34
			TOTAL =	3.07	8.27
Vacuum Systems					
Screening and Distribution Vacuum	018	S-1	7,416	0.06	0.22
100 lb Bagging Vacuum System	018	S-2	7,416	0.06	0.22
5 lb Bagging Vacuum System	018	S-3	7,416	0.06	0.22
			TOTAL =	0.18	0.67
Conditioning Silos					
Conditioning Silo No. 2	019	S-7	8,760	0.06	0.26
Conditioning Silo No. 4	019	S-8	8,760	0.06	0.26
Conditioning Silo No. 6	019	S-9	8,760	0.06	0.26
			TOTAL =	0.18	0.79
Screening and Distribution					
Screening and Distribution #1	020	S-5	7,416	0.06	0.22
Screening and Distribution #2	020	S-6	7,416	0.19	0.70
			TOTAL =	0.25	0.93
Sugar Packaging Baghouse					
Packing Dust Collector	022	S-4	7,416	0.21	0.78
			GRAND TOTAL =	3.89	11.44

[a] Based on permit emission limits.

Note: lb/hr = pounds per hour

TPY = tons per year

Table B-2. 2003 Emissions of Criteria Pollutants from the Sugar Refinery Baghouses at U.S. Sugar Corp, Clewiston

Source/Vent Name	EU No.	Source ID	Hours of Operation	PM/PM_{10} Emissions (lb/hr)[a]	PM/PM_{10} Emissions (TPY)
V.H.P. Sugar Dryer	015	S-11	3,077	1.63	2.51
White Sugar Dryer No. 1	016	S-10	7,848	1.44	5.65
			TOTAL =	3.07	8.16
Vacuum Systems					
Screening and Distribution Vacuum	018	S-1	7,848	0.06	0.24
100 lb Bagging Vacuum System	018	S-2	7,848	0.06	0.24
5 lb Bagging Vacuum System	018	S-3	7,848	0.06	0.24
			TOTAL =	0.18	0.71
Conditioning Silos					
Conditioning Silo No. 2	019	S-7	8,760	0.06	0.26
Conditioning Silo No. 4	019	S-8	8,760	0.06	0.26
Conditioning Silo No. 6	019	S-9	8,760	0.06	0.26
			TOTAL =	0.18	0.79
Screening and Distribution					
Screening and Distribution #1	020	S-5	7,848	0.06	0.24
Screening and Distribution #2	020	S-6	7,848	0.19	0.75
			TOTAL =	0.25	0.98
Sugar Packaging Baghouse					
Packing Dust Collector	022	S-4	7,848	0.21	0.82
			GRAND TOTAL =	3.89	11.46

[a] Based on permit emission limits.

Note: lb/hr = pounds per hour

TPY = tons per year

Table B-3. 2002 Emissions of Criteria Pollutants from the Granular Carbon Furnace (EU 017) at U. S. Sugar Corporation, Clewiston

Regulated Pollutant	Manufacturer's Design[a] (lb/hr)	Maximum Estimated Emissions (lb/hr)	(TPY)[b]
Particulate Matter (PM)	0.7	0.5377 [c]	1.59
Particulate Matter (PM_{10})	0.6	0.4839 [d]	1.43
Sulfur Dioxide (SO_2)	0.29 [e]	0.29	0.85
Nitrogen Oxides (NO_x)	3.0	3.0	8.89
Carbon Monoxide (CO)	3.0	3.0	8.89
VOC	1.0	0.335 [c]	0.99

[a] Estimated emissions obtained from design information provided by BSP Thermal Systems, Inc.

[b] Based on 5,928 hours of operation.

[c] Based on emission tests conducted by Air Consulting and Engineering, Inc (1/20/00).

[d] 90% of PM is assumed to be PM_{10}.

[e] Average hourly rate. Based on stoichmetric calculation for conversion of sulfur into sulfur dioxide: (290,424/5,928) gal/hr x 0.05% x 6.83 lb/gal x 2 lb SO_2/lb sulfur = 0.335 lb/hr.

Table B-4. 2003 Emissions of Criteria Pollutants from the Granular Carbon Furnace (EU 017) at U. S. Sugar Corporation, Clewiston

Regulated Pollutant	Manufacturer's Design[a] (lb/hr)	Maximum Estimated Emissions (lb/hr)	(TPY)[b]
Particulate Matter (PM)	0.7	0.5377 [c]	2.04
Particulate Matter (PM_{10})	0.6	0.4839 [d]	1.84
Sulfur Dioxide (SO_2)	0.33 [e]	0.33	1.25
Nitrogen Oxides (NO_x)	3.0	3.0	11.38
Carbon Monoxide (CO)	3.0	3.0	11.38
VOC	1.0	0.391 [c]	1.48

[a] Estimated emissions obtained from design information provided by BSP Thermal Systems, Inc.

[b] Based on 7,584 hours of operation.

[c] Based on emission tests conducted by Air Consulting and Engineering, Inc (1/20/00).

[d] 90% of PM is assumed to be PM_{10}.

[e] Average hourly rate. Based on stoichmetric calculation for conversion of sulfur into sulfur dioxide: (285,625/7,584) gal/hr x 0.05% x 6.83 lb/gal x 2 lb SO_2/lb sulfur = 0.329 lb/hr.

Table B-5. 2002 Emissions of Criteria Pollutants from Alcohol Usage in the Sugar Refinery (EU 021) at U. S. Sugar Corporation, Clewiston

Material	VOC Content (percent)	Gallons Used (gal/yr)	Pounds Used[a] (lb/yr)	VOC Emissions (TPY)
Isopropyl Alcohol	100	1,045	6,793	3.40

[a] The density of the isopropyl alcohol is 6.54 lb/gal.

Table B-6. 2003 Emissions of Criteria Pollutants from Alcohol Usage in the Sugar Refinery (EU 021) at U. S. Sugar Corporation, Clewiston

Material	VOC Content (percent)	Gallons Used (gal/yr)	Pounds Used[a] (lb/yr)	VOC Emissions (TPY)
Isopropyl Alcohol	100	880	5,720	2.86

[a] The density of the isopropyl alcohol is 6.54 lb/gal.

Table B-7. Average 2002-2003 Emissions from Sugar Refinery, U. S. Sugar Corporation, Clewiston

Source	EU No.	Source ID	Average Emissions (TPY) PM	PM_{10}	SO_2	NO_x	CO	VOC	SAM[a]
V.H.P. Sugar Dryer	015	S-11	2.72	2.72	0	0	0	0	0
White Sugar Dryer	016	S-10	5.50	5.50	0	0	0	0	0
Vacuum Systems									
Screening and Distribution Vacuum	018	S-1	0.23	0.23	0	0	0	0	0
100 lb Bagging Vacuum System	018	S-2	0.23	0.23	0	0	0	0	0
5 lb Bagging Vacuum System	018	S-3	0.23	0.23	0	0	0	0	0
Conditioning Silos									
Conditioning Silo No. 2	019	S-7	0.26	0.26	0	0	0	0	0
Conditioning Silo No. 4	019	S-8	0.26	0.26	0	0	0	0	0
Conditioning Silo No. 6	019	S-9	0.26	0.26	0	0	0	0	0
Screening and Distribution									
Screening and Distribution #1	020	S-5	0.23	0.23	0	0	0	0	0
Screening and Distribution #2	020	S-6	0.73	0.73	0	0	0	0	0
Sugar Packaging Baghouse									
Packing Dust Collector	022	S-4	0.80	0.80	0	0	0	0	0
Granular Carbon Furnace	017	S-12	1.82	1.63	1.05	10.13	10.13	1.24	0.064
Alcohol Usage	021		0	0	0	0	0	3.13	0
TOTAL ALL REFINERY SOURCES			13.26	13.08	1.05	10.13	10.13	4.37	0.064

Note: Based on Annual Operating Reports submitted to DEP for 2002 and 2003, unless otherwise noted.

[a] Calculated assuming 5% of SO_2 is SO_3, then convert to H_2SO_4 (x 98/80).

Nelson, Deborah

From: Koerner, Jeff
Sent: Monday, September 20, 2004 10:18 AM
To: Nelson, Deborah
Cc: Holladay, Cleve
Subject: Projects Under 50 Tons per Year

U.S. Sugar has a project to add a new sugar dryer that is PSD for PM/PM10 emissions (sugar). They have cited Rule 62-212.400(3)(d), F.A.C. which states:

> "Modifications Under Fifty Tons Per Year. If a proposed modification subject to the preconstruction review requirements of this rule would be made to a facility that was in existence on March 1, 1978, and would result in a net emissions increase of each pollutant listed in Table 212.400-2, Regulated Air Pollutants – Significant Emission Rates, of less than 50 tons per year after the application of BACT, such modification shall be exempt from the requirements of Rule 62-212.400(5)(d), (e), (f), and (g), F.A.C., **as they relate to any maximum allowable increase for a Class II area.**"
>
> From Rule 62-212.400(5), F.A.C. these are: (d) Ambient Impact Analysis, (e) Additional Impact Analysis, (f) Preconstruction Air Quality Monitoring and Analysis, and (g) Post Construction Monitoring.

Debbie and I discussed this project briefly this morning. The sugar mill was in existence before March 1, 1978. I need to know what "**as they relate to any maximum allowable increase for a Class II area.**" If this means that they still have to do Calpuff modeling, then it's not much of an exemption. Cleve, has this come up for other projects?

Thanks!

Jeff Koerner, BAR - Air Permitting South
Florida Department of Environmental Protection
850/921-9536

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

September 23, 2004

Mr. Gregg M. Worley, Chief
Air Permits Section
U.S. EPA, Region 4
61 Forsyth Street
Atlanta, Georgia 30303-8960

RE: U.S. Sugar Corporation
Clewiston Mill
0510003-026-AC

Dear Mr. Worley:

Enclosed for your review and comment is a PSD application submitted by U.S. Sugar Corporation for the addition of a new white sugar dryer to the refinery located at the Clewiston Mill in Hendry County, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/921-9533. If you have any questions, please contact Jeff Koerner, review engineer, at 850/921-9536.

Sincerely,

Patty Adams

A. A. Linero, P.E.
Administrator
South Permitting Section

AAL/pa

Enclosure

cc: J. Koerner

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

September 23, 2004

Mr. John Bunyak, Chief
Policy, Planning & Permit Review Branch
NPS – Air Quality Division
P. O. Box 25287
Denver, Colorado 80225

RE: U.S. Sugar Corporation
Clewiston Mill
0510003-026-AC

Dear Mr. Bunyak:

Enclosed for your review and comment is a PSD application submitted by U.S. Sugar Corporation for the addition of a new white sugar dryer to the refinery located at the Clewiston Mill in Hendry County, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/921-9533. If you have any questions, please contact Jeff Koerner, review engineer, at 850/921-9536.

Sincerely,

Patty Adams

for A. A. Linero, P.E.
Administrator
South Permitting Section

AAL/pa

Enclosure

cc: J. Koerner