

FINAL DETERMINATION

PERMITTEE

United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, FL 33440

Authorized Representative:

Mr. William A. Raiola, V.P. of Sugar Processing Operations

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation - Air Permitting South Program
2600 Blair Stone Road, MS #5505
Tallahassee, Florida, 32399-2400

PROJECT

Air Permit No. PSD-FL-346
Project No. 0510003-026-AC
U.S. Sugar Clewiston Sugar Mill and Refinery
New White Sugar Dryer No. 2

The United States Sugar Corporation proposes to install a second white sugar dryer No. 2 (EU-029) to support the existing refinery operations. The new dryer will operate in parallel with existing white sugar dryer No. 1 (EU-016). Particulate matter emissions will be controlled by a set of four high efficiency cyclone collectors in parallel followed by a wet scrubber. The new sugar dryer will allow a slight increase in the daily sugar production from 2200 to 2250 tons of sugar per day. Therefore, this permit will also revise Condition 2 (Section III, Subsection F) in existing Permit No. PSD-FL-272A accordingly.

NOTICE AND PUBLICATION

The Department distributed an "Intent to Issue Permit" package on November 18, 2004. The applicant published the "Public Notice of Intent to Issue" in The Clewiston News on December 2, 2004. The Department received the proof of publication on December 7, 2004. No petitions for administrative hearings or extensions of time to petition for an administrative hearing were filed.

COMMENTS

No comments on the Draft Permit were received from the public, the Department's South District Office, the EPA Region 4 Office, or the National Park Service. The applicant made the following comments regarding the draft permit.

Section 3A, Condition 2 (Page 5 of 8): This condition states, "... To comply with this requirement, the permittee shall submit the final design requirements and manufacturer's specifications sheets to the Department within 90 days of final selection." The applicant indicates that the equipment detailed in the application represents the final design and requests that this requirement be deleted. *Response:* As this is the final selection, the Department agrees.

Section 3A, Condition 4 (Page 6 of 8): This condition establishes 1-hour averages for the minimum wet scrubber operating parameters. First, the applicant requests a revision to a 3-hour block average to be consistent with the 3-hour particulate test-period and Compliance Assurance Monitoring (CAM) requirements. *Response:* The Department agrees to revise the 1-hour averages to 3-hour block averages.

Section 3A, Condition 4 (Page 6 of 8): The applicant also requests a revision to allow lower minimum wet scrubber operating parameters by conducting compliance testing. The applicant provided additional information regarding particle size and the wet scrubber performance. The applicant estimates that 99% of the particles in the dryer cooler will be greater than 2 microns in size based on a mean particle aperture size of 450 microns, a coefficient of variation of 47.6%, and a normal frequency distribution of particle sizes. For particles 2 microns or greater, the performance curve for the Entoleter wet scrubber indicates a removal efficiency of almost 99% at a minimum pressure differential of at least 3 inches of water.

FINAL DETERMINATION

The combined removal efficiency (cyclones plus wet scrubber) of 99.96% was based on a minimum wet scrubber efficiency of only 96%. *Response:* Based on the performance curve for the Entoleter wet scrubber, a minimum pressure differential between 3 to 8 inches of water column is necessary to meet a minimum removal efficiency of 96% depending on particle size. Therefore, the Department revises the condition as follows:

Wet Scrubber: The pressure differential across the wet scrubber shall be maintained above 6 inches of water column based on a 1-hour average. The scrubber water recirculation flow rate shall be maintained above 500 gpm based on a 1-hour average. The owner or operator shall maintain 3-hour block averages of the scrubber water recirculation rate (gpm) and pressure drop across the wet scrubber (inches of water column) above the 3-hour averages established during a satisfactory compliance test for particulate matter conducted at permitted capacity. If either monitored parameter drops below the specified level, the permittee shall investigate, take corrective actions to regain the specified operating level, and record the incident in a written log. Operation outside of the specified operating range for any monitored parameter is not a violation of this permit, in and of itself. However, continued operation outside of the specified operating range for any monitored parameter without taking corrective action may be considered circumvention of the air pollution control equipment. *{Permitting Note: For informational purposes, the nominal operating ranges are 500 gpm and 4 to 8 inches of water column.}* [Design; Rule 62-4.070(3), F.A.C.]

In addition, the following sentences will be added to the given conditions:

- Condition 9: "Data shall also be reduced to 3-hour block averages."
- Condition 10: "The stack test report shall clearly indicate the 3-hour averages of the wet scrubber water recirculation rate and pressure differential and that these operating parameters will be complied with based on a 3-hour block average."

CONCLUSION

The final action of the Department is to issue the permit with the minor changes described above.

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 Mr. William A. Raiola, V.P.
 of Sugar Processing Operations
 United States Sugar Corporation
 Clewiston Sugar Mill and
 Refinery
 111 Ponce DeLeon Avenue
 Clewiston, Florida 33440

2. Article Number
 (Transfer from service label) 7000 1670 0013 3109 9212

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
 Addressee

B. Received by (Printed Name) C. Date of Delivery
 11/22/04

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

PS Form 3811, August 2001

Domestic Return Receipt

102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

7000 1670 0013 3109 9212

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Postmark
Here

Mr. William A. Raiola
 United States Sugar Corporation
 Street, Apt. No., or P.O. Box No.
 111 Ponce DeLeon Avenue
 Clewiston, Florida 33440

PS Form 3800, May 2000

See Reverse for Instructions

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	<p>A. Signature <input type="checkbox"/> Agent <input type="checkbox"/> Addressee <i>x Rachel Felton</i></p> <p>B. Received by (Printed Name) <input type="checkbox"/> Date of Delivery <i>Rachel Felton 2/16/05</i></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>
<p>1. Article Addressed to:</p> <div style="border: 1px dashed black; padding: 5px; margin: 10px 0;"> <p>Mr. William A. Raiola, V.P. of Sugar Processing Operations Clewiston Sugar Mill and Refinery United States Sugar Corporation 111 Ponce DeLeon Avenue Clewiston, Florida 33440</p> </div>	<p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
<p>2. Article Number (Transfer from service label) 7000 1670 0013 3109 9007</p> <p>PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540</p>	

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	\$	
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		

Postmark Here

S. Mr. William A. Raiola, V.P. of Sugar Processing Operations

S. Clewiston Sugar Mill and Refinery

C. United States Sugar Corporation

111 Ponce DeLeon Avenue

Clewiston, Florida 33440

PS Form 3811, May 2000
See Reverse for Instructions

7000 1670 0013 3109 9007

PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

Florida Department of Environmental Protection
Project No. 0510003-026-AC / Draft Air Permit No. PSD-FL-343
United States Sugar Corporation, Clewiston Sugar Mill and Refinery
Henry County, Florida

Applicant: The applicant for this project is the United States Sugar Corporation. The applicant's authorized representative is Mr. William A. Raio, V.P. of Sugar Processing Operations. The applicant's mailing address is the Clewiston Sugar Mill and Refinery, 111 Ponce DeLeon Avenue, Clewiston, FL 33440.

Facility Location: The United States Sugar Corporation operates an existing sugar mill and refinery in Clewiston at the intersection of W.C. Owens Avenue and State Road 832 in Henry County, Florida.

Project: The applicant proposes to install a second white sugar dryer, which will increase the refinery's potential production capacity from 2200 tons per day to 2250 tons per day. The existing Clewiston sugar mill/refinery is a major facility in accordance with Rule 62-212.400, F.A.C., the regulatory program for the Prevention of Significant Deterioration (PSD) of Air Quality. The existing facility is located in Henry County, which is an area that is currently in attainment with the state and federal Ambient Air Quality Standards (AAQS) or otherwise designated as unclassifiable. Annual potential particulate matter (PM10) emissions are estimated to be greater than 15 tons per year. Therefore, the project is subject to PSD preconstruction review, which requires a determination of the Best Available Control Technology (BACT) and an ambient air quality analysis.

The Department concluded that an emission standard of 0.005 grains per dry standard cubic feet of exhaust represents BACT for particulate matter emissions from the new sugar dryer. The draft permit requires the installation of a set of four high efficiency cyclone collectors in parallel followed by a wet scrubber. Captured sugar will be recycled back to the process. After control, the project will emit approximately 18 tons per year of particulate matter.

The applicant's air quality modeling analysis showed that emissions from the project would not exceed the PSD significant impact level for particulate matter based on an annual average ($1 \mu\text{g}/\text{m}^3$). The applicant's refined air quality modeling analysis showed that emissions from the project combined with other nearby sources would result in a maximum predicted impact of $68.5 \mu\text{g}/\text{m}^3$ based on a 24-hour average. This is well below the state and federal Ambient Air Quality Standard for particulate matter of $150 \mu\text{g}/\text{m}^3$ based on a 24-hour average. The applicant provided reasonable assurance that the project will comply with all applicable air quality regulations and will not cause or contribute to a violation of the state and federal Ambient Air Quality Standard for particulate matter.

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210, and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Florida Department of Environmental Protection's Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Bureau of Air Regulation's physical address is 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301 and the mailing address is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Bureau of Air Regulation's phone number is 850/488-0114 and fax number is 850/921-9533.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address and phone number listed above. A copy of the complete project file is also available at the Department's South District Office at 2295 Victoria Avenue, Suite 364, Fort Myers, Florida 33902-3381. The South District's telephone number is 239/332-6975.

Notice of Intent to Issue Air Permit: The Permitting Authority gives notice of its intent to issue an air permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of proposed equipment will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed Draft Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

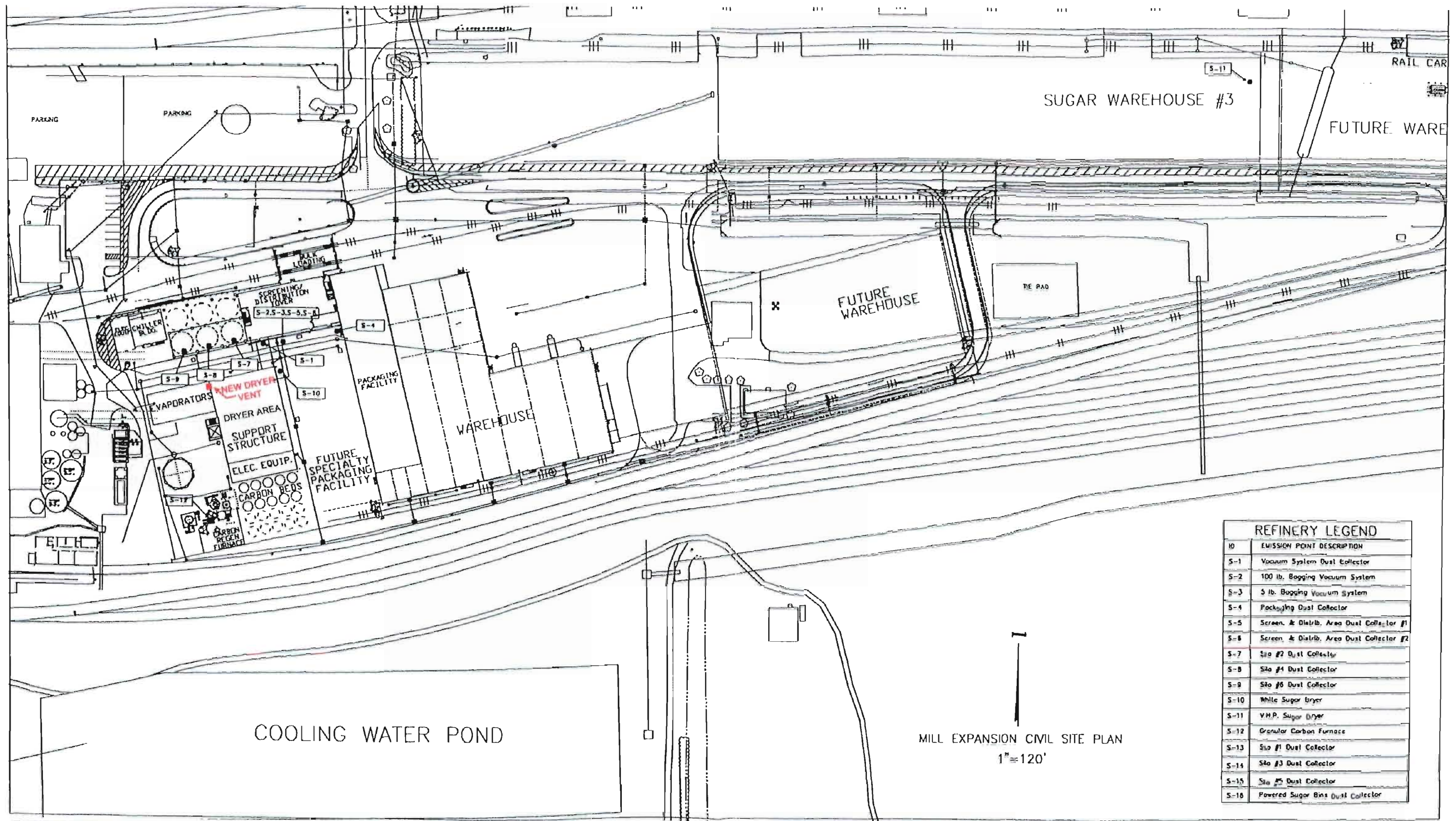
Comments: The Permitting Authority will accept written comments concerning the Draft Permit for a period of thirty (30) days from the date of publication of the Public Notice. Written comments must be post-marked, and all e-mail or facsimile comments must be received by the close of business (5:00 p.m.), on or before the end of this 30-day period by the Permitting Authority at the above address, email or facsimile. As part of his or her comments, any person may also request that the Permitting Authority hold a public meeting on this permitting action. If the Permitting Authority determines there is sufficient interest for a public meeting, it will publish notice of the time, date, and location on the Department's official web site for notices at <http://lhora6.dep.state.fl.us/onw> and in a newspaper of general circulation in the area affected by the permitting action. For additional information, contact the Permitting Authority at the above address or phone number. If written comments or comments received at a public meeting result in a significant change to the Draft Permit, the Permitting Authority will issue a Revised Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by the applicant or any of the parties listed below must be filed within fourteen (14) days of receipt of this Written Notice of Intent to Issue Air Permit. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within fourteen (14) days of publication of the attached Public Notice or within fourteen (14) days of receipt of this Written Notice of Intent to Issue Air Permit, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within fourteen (14) days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when each petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Public Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available in this proceeding.
537237 cgs 12/2/04

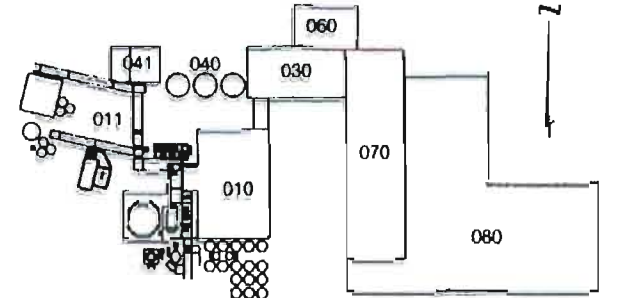
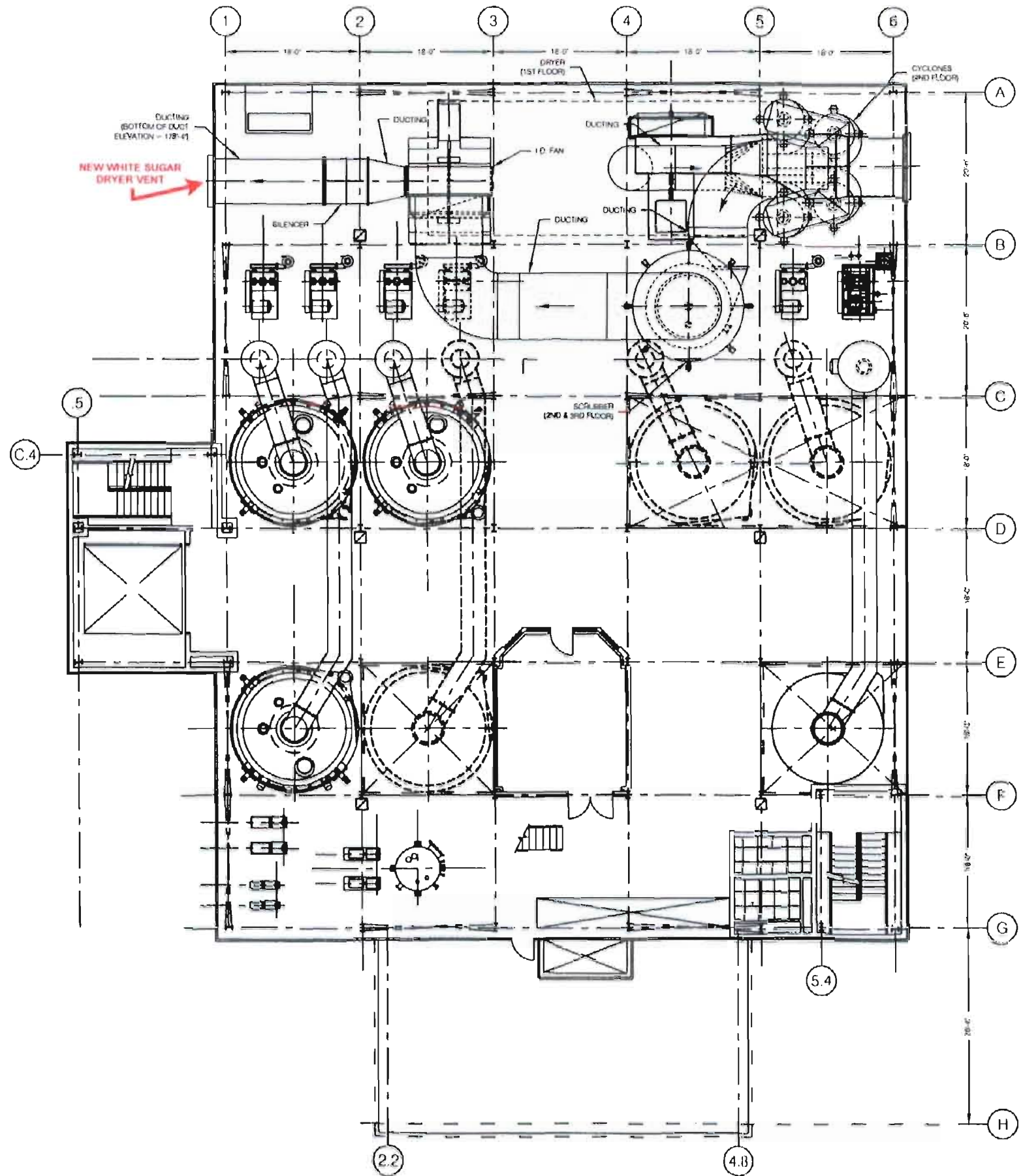


REFINERY LEGEND	
ID	EMISSION POINT DESCRIPTION
S-1	Vacuum System Dust Collector
S-2	100 lb. Bagging Vacuum System
S-3	5 lb. Bagging Vacuum System
S-4	Packaging Dust Collector
S-5	Screen. & Distrib. Area Dust Collector #1
S-6	Screen. & Distrib. Area Dust Collector #2
S-7	Silo #2 Dust Collector
S-8	Silo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

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

Location of Sugar Refinery Sources and Major Buildings





PLAN - REFINERY PROCESS BUILDING

LEGEND

NEW _____
 EXIST _____

VALLEY ENGINEERING, inc.
 270 East Main Avenue, Suite 200
 Fort Wayne, North Dakota 58103
 (701) 877-3333, Fax: (701) 877-0000
 http://www.valley-engineering.com

REV	DATE	DESCRIPTION	BY

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

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

Figure 2-1

UNITED STATES SUGAR CORPORATION
 REFINERY - CLEWISTON
 SUGAR HOUSE ENGINEER DEPARTMENT
 SCRUBBER GENERAL ARRANGEMENT
 REFINERY PROCESS BUILDING

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NOTICE OF FINAL PERMIT

In the Matter of an
Application for Permit by:

United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, FL 33440

Clewiston Sugar Mill and Refinery
Air Permit No. PSD-FL-346
Project No. 0510003-026-AC
New White Sugar Dryer No. 2

Authorized Representative:

Mr. William A. Raiola, V.P. of Sugar Processing Operations

Final Air Permit No. PSD-FL-346 is enclosed authorizing construction of a new white sugar dryer. The new equipment will be installed at existing Clewiston sugar mill and refinery, which is located at the intersection of W.C. Owens Avenue and State Road 832 in Hendry County, Florida. As noted in the attached Final Determination, only minor changes and clarifications were made. This permit is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within thirty (30) days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.



Trina Vielhauer, Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

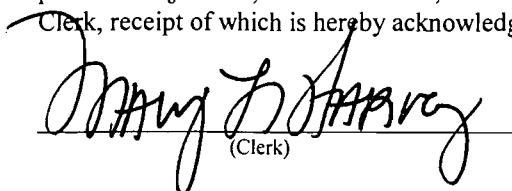
The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Final Permit (including the Final permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 2/10/05 to the persons listed:

Mr. William A. Raiola, USSC*
Mr. Don Griffin, USSC
Mr. Peter Briggs, USSC
Mr. David Buff, Golder Associates Inc.

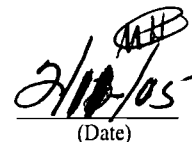
Mr. Ron Blackburn, SD Office
Mr. Gregg Worley, EPA Region 4
Mr. John Bunyak, NPS

Clerk Stamp

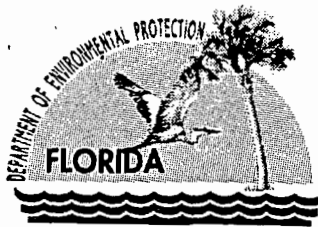
FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.



(Clerk)



(Date)



Department of Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

PERMITTEE:

United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, FL 33440

Authorized Representative:

Mr. William A. Raiola, V.P. of Sugar Processing Operations

Clewiston Sugar Mill and Refinery
Air Permit No. PSD-FL-346
Project No. 0510003-026-AC
Facility ID No. 0510003
SIC Nos. 2061, 2062
Permit Expires: December 31, 2005

FACILITY AND LOCATION

The United States Sugar Corporation operates the existing Clewiston sugar mill and refinery, which is located at the intersection of W.C. Owens Avenue and State Road 832 in Hendry County, Florida. Sugarcane is harvested from nearby fields and transported to the mill by train. In the mill, sugarcane is cut into small pieces and passed through a series of presses to squeeze juice from the cane. The juice undergoes clarification, separation, evaporation, and crystallization to produce raw, unrefined sugar. In the refinery, raw sugar is decolorized, concentrated, crystallized, dried, conditioned, screened, packaged, stored, and distributed as refined sugar. The fibrous byproduct remaining from the sugarcane is called bagasse and is burned as boiler fuel to provide steam and heating requirements for the mill and refinery.

STATEMENT OF BASIS

This permit authorizes the construction of a second white sugar dryer (EU-029) with a capacity of 85 tons per hour of sugar. Particulate matter emissions will be controlled with high efficiency cyclone collectors followed by a wet scrubber. The permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to perform the proposed work in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department.

CONTENTS

- Section 1. General Information
- Section 2. Administrative Requirements
- Section 3. Emissions Units Specific Conditions
- Section 4. Appendices

Michael G. Cooke, Director
Division of Air Resource Management

Effective Date

"More Protection, Less Process"

Printed on recycled paper.

SECTION 1. GENERAL INFORMATION

PROJECT DESCRIPTION

The United States Sugar Corporation proposes to install a second white sugar dryer No. 2 (EU-029) to support the existing refinery operations. The new dryer will operate in parallel with existing white sugar dryer No. 1 (EU-016). Particulate matter emissions will be controlled by a set of four high efficiency cyclone collectors in parallel followed by a wet scrubber. The new sugar dryer will allow a slight increase in the daily sugar production from 2200 to 2250 tons of sugar per day. Therefore, this permit will also revise Condition 2 (Section III, Subsection F) in existing Permit No. PSD-FL-272A accordingly.

REGULATORY CLASSIFICATION

Title III: The existing facility is a potential major source of hazardous air pollutants (HAP).

Title IV: The existing facility has no units subject to the acid rain provisions of the Clean Air Act.

Title V: The existing facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.

PSD: The existing facility is a PSD-major facility as defined in Rule 62-212.400, F.A.C.

APPENDICES

The following Appendices are attached as part of this permit.

Appendix A. Citation Formats

Appendix B. General Conditions

Appendix C. Common Requirements

RELEVANT DOCUMENTS

The permit application and additional information received to make it complete are not a part of this permit; however, the information is specifically related to this permitting action and is on file with the Department.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Florida Department of Environmental Protection's Bureau of Air Regulation. The mailing address is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Department's South District Office at 2295 Victoria Avenue, Suite 364, Fort Myers, Florida, 33901-3381.
3. Citation Formats: Appendix A identifies the methods used to cite rules, regulations, and permits.
4. General Conditions: The permittee shall comply with the general conditions specified in Appendix B.
5. Common Requirements: Common regulatory requirements are specified in Appendix C.
6. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of the subject emissions unit shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403 of the Florida Statutes (F.S.); Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The terms used in this permit have specific meanings as defined in the applicable chapters of the Florida Administrative Code. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]
7. Construction and Expiration: The permit expiration date includes sufficient time to complete construction, perform required testing, submit test reports, and submit an application for a Title V operation permit to the Department. Approval to construct shall become invalid for any of the following reasons: construction is not commenced within 18 months after issuance of this permit; construction is discontinued for a period of 18 months or more; or construction is not completed within a reasonable time. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified. In conjunction with an extension of the 18-month period to commence or continue construction (or to construct the project in phases), the Department may require the permittee to demonstrate the adequacy of any previous determination of Best Available Control Technology (BACT) for emissions units regulated by the project. For good cause, the permittee may request that this PSD air construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation at least sixty (60) days prior to the expiration of this permit. [Rules 62-4.070(4), 62-4.080, 62-210.300(1), and 62-212.400(6)(b), F.A.C.; 40 CFR 52.21(r)(2); 40 CFR 51.166(j)(4)]
8. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
9. Relaxations of Restrictions on Pollutant Emitting Capacity. If a previously permitted facility or modification becomes a facility or modification which would be subject to the preconstruction review requirements of this rule if it were a proposed new facility or modification solely by virtue of a relaxation in any federally enforceable limitation on the capacity of the facility or modification to emit a pollutant (such as a restriction on hours of operation), which limitation was established after August 7, 1980, then at the time of such relaxation the preconstruction review requirements of this rule shall apply to the facility or modification as though construction had not yet commenced on it. [Rule 62-212.400(2)(g), F.A.C.]
10. Modifications: No emissions unit or facility subject to this permit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rule 62-4.030 and Chapters 62-210 and 62-212, F.A.C.]

SECTION 2. ADMINISTRATIVE REQUIREMENTS

11. Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the Department's South District Office. [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. White Sugar Dryer No. 2 (EU-029)

This section of the permit addresses the following new emissions unit.

ID	Emission Unit Description
029	<p>The new white sugar dryer will be a fluidized bed-type dryer/cooler with a rated capacity of 85 tons per hour of refined sugar. After wet refined sugar is centrifuged, the dryer will be used to drive off remaining moisture. Sugar with a moisture content of approximately 1.5% by weight will enter the dryer between 120° - 140° F and be suspended in a fluidized bed with jets of hot, conditioned air. A maximum of 11,000 pounds per hour of low pressure steam (12 psig) from the existing mill boilers will supply heat for the process. Sugar will exit the dryer with a moisture content of approximately 0.03% by weight and a temperature between 92° F - 102° F. The refined sugar is then transferred to the conditioning silos. No fuel will be fired and no other new equipment is being added.</p> <p>Particulate matter emissions from the dryer will be controlled by a set of four high efficiency cyclone collectors in parallel followed by a wet scrubber. Exhaust at 110° F will leave a stack approximately 78 feet above ground level with a volumetric flow rate of 96,000 acfm. The rectangular stack will be 7.0 feet by 6.0 feet. The scrubber pressure drop and scrubber water recirculation flow rate will be continuously monitored.</p>

{Permitting Note: The particulate matter emissions standards for the new dryer are established pursuant to Rule 62-212.400, F.A.C (BACT).}

EQUIPMENT

1. New White Sugar Dryer No. 2: The permittee is authorized to construct a new fluidized bed white sugar dryer/cooler (BMA or equivalent) with a rated capacity of 85 tons per hour. Jets of hot conditioned air will be used in the dryer to suspend sugar in a fluidized bed to drive off excess moisture. Low pressure steam will be used to heat the conditioned air; no fuel will be fired. [Design]
2. Air Pollution Control Equipment: To comply with the standards of this permit, the permittee shall install the following air pollution control equipment.
 - a. *Cyclone Collectors:* In accordance with the manufacturer’s recommendations, the permittee shall install, operate, and maintain a set of four high efficiency cyclone collectors (Entoleter, LLC Model 6600 or equivalent) in parallel with a design removal efficiency of at least 99% of the particulate loading from the new white sugar dryer. The design control efficiency is based on the following inlet conditions: inlet temperature of 110° F; inlet flow rate of 105,000 acfm; inlet dust loading of 14 grains per dscf of inlet gas (11,760 lb/hour); and a pressure drop across the cyclone collectors of 6 inches of water column.
 - b. *Wet Scrubber:* In accordance with the manufacturer’s recommendations, the permittee shall install, operate, and maintain a wet scrubber (Entoleter, LLC Centrifield Vortex Model 1500 or equivalent) with a design removal efficiency of at least 96% of the particulate loading from the new cyclone collectors. The design control efficiency is based on the following inlet conditions: inlet temperature of 113° F; inlet flow rate of 105,000 acfm; inlet dust loading of 0.14 grains per dscf of inlet gas (118 lb/hour); a scrubber water recirculation flow rate of 500 gpm; a scrubber make-up water flow rate of 12 gpm; and a pressure drop of 8 inches of water column.

The combined design removal efficiency of the two particulate control devices shall be no less than 99.96% based on the above conditions.

[Design; Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. White Sugar Dryer No. 2 (EU-029)

PERFORMANCE REQUIREMENTS

3. Permitted Capacity: The maximum design capacity of the new sugar dryer is 85 tons per hour of sugar. [Design; Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]
4. Wet Scrubber: The owner or operator shall maintain 3-hour block averages of the scrubber water recirculation rate (gpm) and pressure drop across the wet scrubber (inches of water column) above the 3-hour averages established during a satisfactory compliance test for particulate matter conducted at permitted capacity. If either monitored parameter drops below the specified level, the permittee shall investigate, take corrective actions to regain the specified operating level, and record the incident in a written log. Operation outside of the specified operating range for any monitored parameter is not a violation of this permit, in and of itself. However, continued operation outside of the specified operating range for any monitored parameter without taking corrective action may be considered circumvention of the air pollution control equipment. *{Permitting Note: For informational purposes, the nominal operating ranges are 500 gpm and 4 to 8 inches of water column.}* [Design; Rule 62-4.070(3), F.A.C.]

EMISSIONS STANDARDS

5. Particulate Matter: As determined by EPA Method 5 stack test, particulate matter emissions shall not exceed 0.005 grains per dscf and 4.2 pounds per hour based on the average of three test runs. [Design; Rule 62-212.400(BACT), F.A.C.]
6. Visible Emissions: Excluding water vapor, visible emissions from the wet scrubber stack shall not exceed 10% opacity. [Rule 62-212.400(BACT), F.A.C.]

TESTING REQUIREMENTS

7. Compliance Stack Tests: The permittee shall conduct an initial stack test to demonstrate compliance with the particulate matter emissions standards within 60 days after achieving the maximum sugar processing rate, but not later than 180 days after initial startup. The permittee shall also conduct subsequent stack tests to demonstrate compliance with the particulate matter emissions standards during the 12-month period prior to the expiration date of any air operation permit. Tests shall be conducted in accordance with EPA Method 5 (particulate emissions), EPA Methods 1 – 4 (as necessary to support EPA Method 5), and EPA Method 9 (visible emissions). The EPA test methods and procedures are specified in Appendix A of 40 CFR 60 and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. In accordance with Rule 62-297.310(2), F.A.C., all tests shall be conducted at permitted capacity. The Department may require the permittee to repeat some or all of these initial stack tests after major replacement or major repair of any air pollution control or process equipment. [Rules 62-204.800, 62-212.400(BACT) and 62-297.310(7)(a) and (b), F.A.C.; 40 CFR 60.8; 40 CFR 60, Appendix A]

MONITORING REQUIREMENTS

8. Cyclone Collectors: In accordance with the manufacturer's recommendations, the permittee shall install, calibrate, operate and maintain a manometer (or equivalent) to monitor the pressure differential across each cyclone collector. *{Permitting Note: The design pressure differential for the cyclone collectors is 6 inches of water column. Although no periodic records of the pressure differential are required, the devices shall be properly maintained and functional to provide operational data for evaluating problems.}* [Rule 62-4.070(3), F.A.C.]
9. Wet Scrubber Parameters: In accordance with the manufacturer's recommendations, the permittee shall install, calibrate, operate and maintain devices to continuously monitor and record the wet scrubber water

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. White Sugar Dryer No. 2 (EU-029)

recirculation rate (gpm) and the pressure differential across the wet scrubber (inches of water column). Data shall also be reduced to 3-hour block averages. Records shall be maintained on site and made available upon request. [Design; Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

RECORDS AND REPORTS

10. Stack Test Reports: In addition to the information required in Rule 62-297.310(8), F.A.C., each stack test report shall also include the following information: sugar processing rate through the dryer (tons per hour); the scrubber water recirculation rate (gpm); and the pressure differential across the wet scrubber (inches of water column). In addition, the permittee shall record and report the pressure differential across each cyclone collector at the beginning and end of each test run. The stack test report shall clearly indicate the 3-hour averages of the wet scrubber water recirculation rate and pressure differential and that these operating parameters will be complied with based on a 3-hour block average. [Rule 62-4.070(3), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

B. Miscellaneous Particulate Sources (EU-015, 016, 018, 019, 020, 022, and 029)

This section of the permit addresses the following emissions units.

EU No.	Emissions Unit Description
015	VHP sugar dryer with baghouse (S-11)
016	White sugar dryer No. 1 with baghouse (S-10)
018	Vacuum Systems: Screening/distribution vacuum with baghouse (S-1); 100 lb bagging vacuum with baghouse (S-2); 5 lb bagging vacuum with baghouse (S-3)
019	Six conditioning silos with baghouses (S-7, S-8, and S-9)
020	Screening/distribution and powdered sugar/starch bins with baghouses (S-5 and S-6)
022	Packaging baghouse (S-4)
029	White sugar dryer No. 2 with wet scrubber (S-13)

MODIFIED CONDITION

Condition 2 (Section III, Subsection F) in Permit No. PSD-FL-272A is changed:

From:

2. Production Restrictions: No more than 2000 tons of refined sugar per day nor 730,000 tons of refined sugar per consecutive 12 months shall be packaged at this facility. In addition, no more than 2200 tons of refined sugar per day nor 803,000 tons of refined sugar per consecutive 12 months shall be loaded out from this facility. [Applicant Request; Rule 62-210.200 (Definitions - PTE), F.A.C.]

To:

2. Production Restrictions: No more than 2000 tons of refined sugar per day and no more than 730,000 tons of refined sugar per consecutive 12 months shall be packaged at this facility. In addition, no more than 2250 tons of refined sugar per day and no more than 803,000 tons of refined sugar per consecutive 12 months shall be loaded out from this facility. [Applicant Request; Rules 62-210.200 (PTE) and 62-212.400(2)(g), F.A.C., F.A.C.; Air Permit No. PSD-FL-346]

All other conditions in Permit No. PSD-FL-272A shall remain unchanged.

Filename: PSD-FL-346 Sugar Dryer - Final Permit

SECTION 4. APPENDICES

Contents

Appendix A. Citation Formats

Appendix B. General Conditions

Appendix C. Common Requirements

SECTION 4. APPENDIX A

Citation Formats

The following examples illustrate the format used in the permit to identify applicable permitting actions and regulations.

REFERENCES TO PREVIOUS PERMITTING ACTIONS

Old Permit Numbers

Example: Permit No. AC50-123456 or Air Permit No. AO50-123456

Where: "AC" identifies the permit as an Air Construction Permit
"AO" identifies the permit as an Air Operation Permit
"123456" identifies the specific permit project number

New Permit Numbers

Example: Permit Nos. 099-2222-001-AC, 099-2222-001-AF, 099-2222-001-AO, or 099-2222-001-AV

Where: "099" represents the specific county ID number in which the project is located
"2222" represents the specific facility ID number
"001" identifies the specific permit project
"AC" identifies the permit as an air construction permit
"AF" identifies the permit as a minor federally enforceable state operation permit
"AO" identifies the permit as a minor source air operation permit
"AV" identifies the permit as a Title V Major Source Air Operation Permit

PSD Permit Numbers

Example: Permit No. PSD-FL-317

Where: "PSD" means issued pursuant to the Prevention of Significant Deterioration of Air Quality
"FL" means that the permit was issued by the State of Florida
"317" identifies the specific permit project

RULE CITATION FORMATS

Florida Administrative Code (F.A.C.)

Example: [Rule 62-213.205, F.A.C.]

Means: Title 62, Chapter 213, Rule 205 of the Florida Administrative Code

Code of Federal Regulations (CFR)

Example: [40 CFR 60.7 or §60.7]

Means: Title 40, Part 60, Section 7

SECTION 4. APPENDIX B

General Conditions

The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
 - a. Have access to and copy and records that must be kept under the conditions of the permit;
 - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
 - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
 - a. A description of and cause of non-compliance; and
 - b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

SECTION 4. APPENDIX B

General Conditions

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
13. This permit also constitutes:
 - a. Determination of Best Available Control Technology (Yes);
 - b. Determination of Prevention of Significant Deterioration (Yes); and
 - c. Compliance with New Source Performance Standards (Not Applicable).
14. The permittee shall comply with the following:
 - a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
 - b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
 - c. Records of monitoring information shall include:
 - 1) The date, exact place, and time of sampling or measurements;
 - 2) The person responsible for performing the sampling or measurements;
 - 3) The dates analyses were performed;
 - 4) The person responsible for performing the analyses;
 - 5) The analytical techniques or methods used; and
 - 6) The results of such analyses.
15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SECTION 4. APPENDIX C

Common Requirements

{Permitting Note: Unless otherwise specified by permit, the following conditions apply to all emissions units and activities at this facility.}

Definitions

1. **Excess Emissions:** Emissions of pollutants in excess of those allowed by any applicable air pollution rule of the Department, or by a permit issued pursuant to any such rule or Chapter 62-4, F.A.C. The term applies only to conditions which occur during startup, shutdown, soot-blowing, load changing or malfunction. [Rule 62-210.200(106), F.A.C.]
2. **Shutdown:** The cessation of the operation of an emissions unit for any purpose. [Rule 62-210.200(231), F.A.C.]
3. **Startup:** The commencement of operation of any emissions unit which has shut down or ceased operation for a period of time sufficient to cause temperature, pressure, chemical or pollution control device imbalances, which result in excess emissions. [Rule 62-210.200(246), F.A.C.]
4. **Malfunction:** Any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner. [Rule 62-210.200(160), F.A.C.]

Emissions and Controls

5. **Plant Operation - Problems:** If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall notify each Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit or the regulations. [Rule 62-4.130, F.A.C.]
6. **Circumvention:** The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]
7. **Excess Emissions Allowed:** Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700(1), F.A.C.]
8. **Excess Emissions Prohibited:** Excess emissions caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]
9. **Excess Emissions - Notification:** In case of excess emissions resulting from malfunctions, the permittee shall notify the Department or the appropriate Local Program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700(6), F.A.C.]
10. **Objectionable Odor Prohibited:** No person shall cause, suffer, allow or permit the discharge of air pollutants, which cause or contribute to an objectionable odor. An "objectionable odor" means any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [Rules 62-296.320(2) and 62-210.200(203), F.A.C.]
11. **General Visible Emissions:** No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20 percent opacity. [Rule 62-296.320(4)(b)1, F.A.C.]
12. **Unconfined Particulate Emissions:** During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as confining, containing, covering, and/or applying water to the affected areas, as necessary. [Rule 62-296.320(4)(c), F.A.C.]

TESTING REQUIREMENTS

13. **Required Number of Test Runs:** For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three

SECTION 4. APPENDIX C

Common Requirements

complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured; provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five-day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five-day period allowed for the test, the Secretary or his or her designee may accept the results of two complete runs as proof of compliance, provided that the arithmetic mean of the two complete runs is at least 20% below the allowable emission limiting standard. [Rule 62-297.310(1), F.A.C.]

14. Operating Rate During Testing: Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. [Rule 62-297.310(2), F.A.C.]

15. Calculation of Emission Rate: For each emissions performance test, the indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule. [Rule 62-297.310(3), F.A.C.]

16. Test Procedures: Tests shall be conducted in accordance with all applicable requirements of Chapter 62-297, F.A.C.

a. *Required Sampling Time*. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes. The minimum observation period for a visible emissions compliance test shall be thirty (30) minutes. The observation period shall include the period during which the highest opacity can reasonably be expected to occur.

b. *Minimum Sample Volume*. Unless otherwise specified in the applicable rule or test method, the minimum sample volume per run shall be 25 dry standard cubic feet.

c. *Calibration of Sampling Equipment*. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, F.A.C.

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

17. Determination of Process Variables

a. *Required Equipment*. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

b. *Accuracy of Equipment*. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

18. Sampling Facilities: The permittee shall install permanent stack sampling ports and provide sampling facilities that meet the requirements of Rule 62-297.310(6), F.A.C.

19. Test Notification: The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator. [Rule 62-297.310(7)(a)9, F.A.C.]

SECTION 4. APPENDIX C

Common Requirements

20. Special Compliance Tests: When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. [Rule 62-297.310(7)(b), F.A.C.]
21. Test Reports: The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test. The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:
1. The type, location, and designation of the emissions unit tested.
 2. The facility at which the emissions unit is located.
 3. The owner or operator of the emissions unit.
 4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
 5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
 6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
 7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
 8. The date, starting time and duration of each sampling run.
 9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
 10. The number of points sampled and configuration and location of the sampling plane.
 11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
 12. The type, manufacturer and configuration of the sampling equipment used.
 13. Data related to the required calibration of the test equipment.
 14. Data on the identification, processing and weights of all filters used.
 15. Data on the types and amounts of any chemical solutions used.
 16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
 17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
 18. All measured and calculated data required to be determined by each applicable test procedure for each run.
 19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
 20. The applicable emission standard and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.
 21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]

SECTION 4. APPENDIX C

Common Requirements


RECORDS AND REPORTS


22. Records Retention: All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least five (5) years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. Information recorded and stored as an electronic file shall be made available within at least three days of a request. [Rules 62-4.160(14) and 62-213.440(1)(b)2, F.A.C.]
23. Annual Operating Report: The permittee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to the Compliance Authority by March 1st of each year. [Rule 62-210.370(2), F.A.C.]

Florida Department of Environmental Protection

Memorandum

TO: Michael G. Cooke, Division of Air Resource Management

THRU: Trina Vielhauer, Bureau of Air Regulation
Al Linero, Air Permitting South Program 

FROM: Jeff Koerner, Air Permitting South Program 

DATE: January 31, 2005

SUBJECT: Project No. 0510003-026-AC
Revised Air Permit No. PSD-FL-346
U. S. Sugar Corporation – Clewiston Sugar Mill
New White Sugar Dryer

The Final Permit for this project is attached for your approval and signature, which authorizes installation of a second white sugar dryer to support the existing refinery operations. The new dryer will operate in parallel with existing white sugar dryer. Particulate matter emissions will be controlled by a set of four high efficiency cyclone collectors in parallel followed by a wet scrubber. The new sugar dryer will allow a slight increase in the daily sugar production from 2200 to 2250 tons of sugar per day. Therefore, this permit will also revise Condition 2 (Section III, Subsection F) in existing Permit No. PSD-FL-272A accordingly.

The Department distributed an "Intent to Issue Permit" package on November 18, 2004. The applicant published the "Public Notice of Intent to Issue" in The Clewiston News on December 2, 2004. The Department received the proof of publication on December 7, 2004. No petitions for administrative hearings or extensions of time to petition for an administrative hearing were filed.

Day #90 is February 20, 2005. I recommend your approval of the attached Final Permit for this project.

Attachments

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	<p>A. Signature <input type="checkbox"/> Agent <input type="checkbox"/> Addressee <i>x Rachel Felton</i></p> <p>B. Received by (Printed Name) <input type="checkbox"/> Agent <input type="checkbox"/> Addressee <i>Rachel Felton</i></p> <p>C. Date of Delivery <i>2/16/05</i></p>
<p>1. Article Addressed to:</p> <p>Mr. William A. Raiola, V.P. of Sugar Processing Operations Clewiston Sugar Mill and Refinery United States Sugar Corporation 111 Ponce DeLeon Avenue Clewiston, Florida 33440</p>	<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input type="checkbox"/> No If YES, enter delivery address below:</p> <p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
<p>2. Article Number (Transfer from service label) <i>7000 1670 0013 3109 9007</i></p> <p>PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540</p>	

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

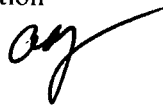

7000 1670 0013 3109 9007

Postage	\$	Postmark Here
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Mr. William A. Raiola, V.P. of Sugar Processing Operations Clewiston Sugar Mill and Refinery United States Sugar Corporation 111 Ponce DeLeon Avenue Clewiston, Florida 33440		

PS Form 3811, August 2001 See Reverse for Instructions

Memorandum

Florida Department of Environmental Protection

TO: Trina Vielhauer, Chief - Bureau of Air Regulation
THROUGH: Al Linero, Manager of Air Permitting South 
FROM: Jeff Koerner, Air Permitting South 
DATE: November 15, 2004
SUBJECT: Draft Air Permit No. PSD-FL-346
Project No. 0510003-026-AC
U.S. Sugar Corporation, Clewiston Sugar Mill and Refinery
New White Sugar Dryer

Attached for your review are the following items:

- Intent to Issue Revised Air Permit and Public Notice Package;
- Technical Evaluation and Preliminary Determination;
- Draft Permit; and
- P.E. Certification.

The P.E. certification briefly summarizes the proposed permit project. The Technical Evaluation and Preliminary Determination provide a detailed description of the project, rationale, and conclusion. Day #74 is January 3, 2005. I recommend your approval of the attached Draft Permit for this project.

Attachments

P.E. CERTIFICATION STATEMENT

PERMITTEE

United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, FL 33440

Draft Air Permit No. PSD-FL-346
Project No. 0510003-026-AC
Clewiston Sugar Mill and Refinery
New White Sugar Dryer No. 2

PROJECT DESCRIPTION

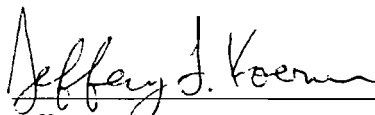
U.S. Sugar Corporation (U.S. Sugar) operates an existing sugar mill and refinery in Clewiston, which is located at the intersection of W.C. Owens Avenue and State Road 832 in Hendry County, Florida. U.S. Sugar proposes to install a second white sugar dryer that will increase the refinery's potential production capacity from 2200 tons per day to 2250 tons per day. The existing Clewiston sugar mill and refinery is a major facility in accordance with Rule 62-212.400, F.A.C., the regulatory program for the Prevention of Significant Deterioration (PSD) of Air Quality. The existing facility is located in Hendry County, which is an area that is currently in attainment with the state and federal Ambient Air Quality Standards (AAQS) or otherwise designated as unclassifiable. Annual potential particulate matter (PM₁₀) emissions are estimated to be greater than 15 tons per year. Therefore, the project is subject to PSD preconstruction review, which requires a determination of the Best Available Control Technology (BACT) and an ambient air quality analysis.

The Department concluded that an emissions standard of 0.005 grains per dscf represents BACT for particulate matter emissions from the new sugar dryer. The standard allows for the installation of either a fabric filter or the high efficiency cyclone collectors/wet scrubber combination as proposed by the applicant with a design control efficiency of ~ 99.9%. In making this determination, the Department considered the overall removal efficiencies of the two systems, the nature of the particulate matter emitted (sugar), the application of the control equipment (sugar dryer), U.S. Sugar's actual operating experience with a fabric filter on the existing dryer, and the fact that there is an economic incentive to recover and recycle the sugar back into the process.

After control, the project will emit approximately 18 tons per year of particulate matter. The applicant's air quality modeling analysis showed that emissions from the project would not exceed the PSD significant impact level for particulate matter of 1 $\mu\text{g}/\text{m}^3$ based on an annual average. The applicant's refined air quality modeling analysis showed that emissions from the project combined with other nearby sources would result in a maximum predicted impact of 68.5 $\mu\text{g}/\text{m}^3$ based on a 24-hour average. This is well below the state and federal Ambient Air Quality Standard for particulate matter of 150 $\mu\text{g}/\text{m}^3$ based on a 24-hour average. The applicant provided reasonable assurance that the project will comply with all applicable air quality regulations and will not cause or contribute to a violation of the state and federal Ambient Air Quality Standard for particulate matter.

Previously issued Permit No. PSD-FL-272A limits daily sugar production to 2200 tons per day. The new sugar dryer will allow a slight increase in the daily sugar production from 2200 to 2250 tons per day. The net emissions increases from relaxing this limit were included in the review of the current PSD air permit project. Therefore, the draft permit revises Condition 2 (Section III, Subsection F) of Permit No. PSD-FL-272A and increases the limit on daily sugar production to 2250 tons per day.

I HEREBY CERTIFY that the air pollution control engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including, but not limited to, the electrical, mechanical, structural, hydrological, geological, and meteorological features).



Jeffery F. Koerner, P.E.
Registration Number: 49441

11-15-04

(Date)



Department of Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

November 16, 2004

Mr. William A. Raiola, V.P. of Sugar Processing Operations
United States Sugar Corporation
Clewiston Sugar Mill and Refinery
111 Ponce DeLeon Avenue
Clewiston, FL 33440

Re: Draft Air Permit No. PSD-FL-346
Project No. 0510003-026-AC
U.S. Sugar Corporation, Clewiston Sugar Mill and Refinery
New White Sugar Dryer No. 2

Dear Mr. Raiola:

On September 9, 2004, U.S. Sugar submitted an application to add a second white sugar dryer at the Clewiston sugar mill and refinery, which is located at the intersection of W.C. Owens Avenue and State Road 832 in Hendry County, Florida. Enclosed are the following documents: "Technical Evaluation and Preliminary Determination", "Draft Permit", "Written Notice of Intent to Issue Air Permit", and "Public Notice of Intent to Issue Air Permit".

The "Technical Evaluation and Preliminary Determination" summarizes the Bureau of Air Regulation's technical review of the application and provides the rationale for making the preliminary determination to issue a draft permit. The proposed "Draft Permit" includes the specific conditions that regulate the emissions units covered by the proposed project. The "Written Notice of Intent to Issue Air Permit" provides important information regarding: the Permitting Authority's intent to issue an air permit for the proposed project; the requirements for publishing a Public Notice of the Permitting Authority's intent to issue an air permit; the procedures for submitting comments on the Draft Permit; the process for filing a petition for an administrative hearing; and the availability of mediation. The "Public Notice of Intent to Issue Air Permit" is the actual notice that you must have published in the legal advertisement section of a newspaper of general circulation in the area affected by this project.

If you have any questions, please contact the Project Engineer, Jeff Koerner, at 850/921-9536.

Sincerely,

Trina Vielhauer, Chief
Bureau of Air Regulation

Enclosures

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

*In the Matter of an
Application for Air Permit by:*

United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, FL 33440

Authorized Representative:

Mr. William A. Raiola, V.P. of Sugar Processing Operations

Draft Air Permit No. PSD-FL-346
Project No. 0510003-026-AC
Clewiston Sugar Mill and Refinery
New White Sugar Dryer No. 2
Hendry County, Florida

Facility Location: U.S. Sugar Corporation operates an existing sugar mill and refinery in Clewiston at the intersection of W.C. Owens Avenue and State Road 832 in Hendry County, Florida.

Project: The applicant proposes to install a second white sugar dryer at the existing refinery, which will allow a slight increase in the refinery's production capacity from 2200 tons per day to 2250 tons per day. This change will allow the refinery to realize full production potential. The dryer emits particulate matter, which will be controlled by a set of four high efficiency cyclone collectors in parallel followed by a wet scrubber. The overall control efficiency of this combination will be greater than 99.9%. Details of the project are provided in the application and the enclosed "Technical Evaluation and Preliminary Determination".

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210, and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Florida Department of Environmental Protection's Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Bureau of Air Regulation's physical address is 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301 and the mailing address is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Bureau of Air Regulation's phone number is 850/488-0114.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address and phone number listed above. A copy of the complete project file is also available at the Department's South District Office at 2295 Victoria Avenue, Suite 364, Fort Myers, Florida 33902-3381. The South District's telephone number is 239/332-6975.

Notice of Intent to Issue Permit: The Permitting Authority gives notice of its intent to issue an air permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of proposed equipment will not adversely impact air quality and that the project will comply with all applicable provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed Draft Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

Public Notice: Pursuant to Section 403.815, F.S. and Rules 62-110.106 and 62-210.350, F.A.C., you (the applicant) are required to publish at your own expense the enclosed "Public Notice of Intent to Issue Air Permit" (Public Notice). The Public Notice shall be published one time only as soon as possible in the legal advertisement section of a newspaper of general circulation in the area affected by this project. The newspaper used must meet the requirements of Sections 50.011 and 50.031, F.S. in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Permitting Authority at the address or phone number listed above. Pursuant to Rule 62-110.106(5), F.A.C., the applicant shall provide proof of publication to the Permitting Authority at the above address within seven (7) days of publication. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rule 62-110.106(11), F.A.C.

Comments: The Permitting Authority will accept written comments concerning the Draft Permit for a period of thirty (30) days from the date of publication of the Public Notice. Written comments must be post-marked, and all e-mail or facsimile comments must be received by the close of business (5:00 p.m.), on or before the end of this 30-day period by the Permitting Authority at the above address, email or facsimile. As part of his or her comments, any person may also request

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

that the Permitting Authority hold a public meeting on this permitting action. If the Permitting Authority determines there is sufficient interest for a public meeting, it will publish notice of the time, date, and location on the Department's official web site for notices at <http://tlhora6.dep.state.fl.us/onw> and in a newspaper of general circulation in the area affected by the permitting action. For additional information, contact the Permitting Authority at the above address or phone number. If written comments or comments received at a public meeting result in a significant change to the Draft Permit, the Permitting Authority will issue a Revised Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by the applicant or any of the parties listed below must be filed within fourteen (14) days of receipt of this Written Notice of Intent to Issue Air Permit. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within fourteen (14) days of publication of the attached Public Notice or within fourteen (14) days of receipt of this Written Notice of Intent to Issue Air Permit, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within fourteen (14) days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when each petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Written Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available in this proceeding.

Executed in Tallahassee, Florida.



Trina Vielhauer, Chief
Bureau of Air Regulation

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

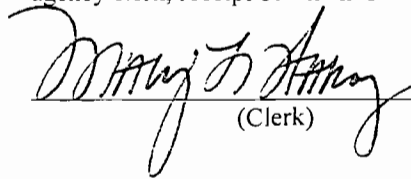
CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this "Written Notice of Intent to Issue Air Permit" package (including the Public Notice, the Technical Evaluation and Preliminary Determination, and the Draft Permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 11/18/04 to the persons listed below.

Mr. William A. Raiola, USSC*
Mr. Don Griffin, USSC
Mr. Peter Briggs, USSC
Mr. David Buff, Golder Associates Inc.
Mr. Ron Blackburn, SD Office
Mr. Gregg Worley, EPA Region 4
Mr. John Bunyak, NPS

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.



(Clerk)

11/18/04

(Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

Florida Department of Environmental Protection
Project No. 0510003-026-AC / Draft Air Permit No. PSD-FL-346
United States Sugar Corporation, Clewiston Sugar Mill and Refinery
Hendry County, Florida

Applicant: The applicant for this project is the United States Sugar Corporation. The applicant's authorized representative is Mr. William A. Raiola, V.P. of Sugar Processing Operations. The applicant's mailing address is the Clewiston Sugar Mill and Refinery, 111 Ponce DeLeon Avenue, Clewiston, FL 33440.

Facility Location: The United States Sugar Corporation operates an existing sugar mill and refinery in Clewiston at the intersection of W.C. Owens Avenue and State Road 832 in Hendry County, Florida.

Project: The applicant proposes to install a second white sugar dryer, which will increase the refinery's potential production capacity from 2200 tons per day to 2250 tons per day. The existing Clewiston sugar mill/refinery is a major facility in accordance with Rule 62-212.400, F.A.C., the regulatory program for the Prevention of Significant Deterioration (PSD) of Air Quality. The existing facility is located in Hendry County, which is an area that is currently in attainment with the state and federal Ambient Air Quality Standards (AAQS) or otherwise designated as unclassifiable. Annual potential particulate matter (PM₁₀) emissions are estimated to be greater than 15 tons per year. Therefore, the project is subject to PSD preconstruction review, which requires a determination of the Best Available Control Technology (BACT) and an ambient air quality analysis.

The Department concluded that an emission standard of 0.005 grains per dry standard cubic feet of exhaust represents BACT for particulate matter emissions from the new sugar dryer. The draft permit requires the installation of a set of four high efficiency cyclone collectors in parallel followed by a wet scrubber. Captured sugar will be recycled back to the process. After control, the project will emit approximately 18 tons per year of particulate matter.

The applicant's air quality modeling analysis showed that emissions from the project would not exceed the PSD significant impact level for particulate matter based on an annual average (1 $\mu\text{g}/\text{m}^3$). The applicant's refined air quality modeling analysis showed that emissions from the project combined with other nearby sources would result in a maximum predicted impact of 68.5 $\mu\text{g}/\text{m}^3$ based on a 24-hour average. This is well below the state and federal Ambient Air Quality Standard for particulate matter of 150 $\mu\text{g}/\text{m}^3$ based on a 24-hour average. The applicant provided reasonable assurance that the project will comply with all applicable air quality regulations and will not cause or contribute to a violation of the state and federal Ambient Air Quality Standard for particulate matter.

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210, and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Florida Department of Environmental Protection's Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Bureau of Air Regulation's physical address is 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301 and the mailing address is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Bureau of Air Regulation's phone number is 850/488-0114 and fax number is 850/921-9533.

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Comments: The Permitting Authority will accept written comments concerning the Draft Permit for a period of thirty (30) days from the date of publication of the Public Notice. Written comments must be post-marked, and all e-mail or facsimile

(Public Notice to be Published in the Newspaper)

PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

comments must be received by the close of business (5:00 p.m.), on or before the end of this 30-day period by the Permitting Authority at the above address, email or facsimile. As part of his or her comments, any person may also request that the Permitting Authority hold a public meeting on this permitting action. If the Permitting Authority determines there is sufficient interest for a public meeting, it will publish notice of the time, date, and location on the Department's official web site for notices at <http://tlhora6.dep.state.fl.us/onw> and in a newspaper of general circulation in the area affected by the permitting action. For additional information, contact the Permitting Authority at the above address or phone number. If written comments or comments received at a public meeting result in a significant change to the Draft Permit, the Permitting Authority will issue a Revised Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by the applicant or any of the parties listed below must be filed within fourteen (14) days of receipt of this Written Notice of Intent to Issue Air Permit. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within fourteen (14) days of publication of the attached Public Notice or within fourteen (14) days of receipt of this Written Notice of Intent to Issue Air Permit, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within fourteen (14) days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when each petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Public Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available in this proceeding.

(Public Notice to be Published in the Newspaper)

**TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION**

PROJECT

Project No. 0510003-026-AC
Air Permit No. PSD-FL-346
Clewiston Sugar Mill and Refinery
ARMS Facility ID No. 0510003
New White Sugar Dryer No. 2 (EU-029)

COUNTY

Hendry County

APPLICANT

United States Sugar Corporation
Clewiston Sugar Mill and Refinery
111 Ponce DeLeon Avenue
Clewiston, FL 33440

**PERMITTING
AUTHORITY**

Florida Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation
Air Permitting South Program
2600 Blair Stone Road, MS #5505
Tallahassee, FL 32399-2400



November 15, 2004

1. GENERAL PROJECT INFORMATION

General Facility Information

The United States Sugar Corporation (U.S. Sugar) operates the existing Clewiston sugar mill (SIC No. 2061) and refinery (SIC No. 2062), which are located at the intersection of W.C. Owens Avenue and State Road 832 in Hendry County, Florida. Sugarcane is harvested from nearby fields and transported to the mill by train. In the mill, sugarcane is cut into small pieces and passed through a series of presses to squeeze juice from the cane. The juice undergoes clarification, separation, evaporation, and crystallization to produce raw, unrefined sugar. In the refinery, raw sugar is decolorized, concentrated, crystallized, dried, conditioned, screened, packaged, stored, and distributed as refined sugar.

“Bagasse” is the fibrous material remaining from sugarcane after milling. It is burned as boiler fuel to provide steam and heating requirements for the mill and refinery. The primary air pollution sources in the mill consist of five existing boilers that fire bagasse and fuel oil. A sixth boiler (Boiler 8) is being constructed. Boiler 3 will be permanently shutdown once Boiler 8 is in operation. Particulate matter emissions are controlled with wet scrubbers (Boilers 1 – 4) as well as wet cyclone collectors/electrostatic precipitators (Boilers 7 and 8). Other air pollution sources in the refinery include a fluidized bed dryer/cooler, a granular carbon regenerative furnace, conditioning silos with dust collectors, vacuum systems, sugar/starch bins, conveyors, and a packaging system. The existing sugar mill and refinery are regulated according to the following classifications:

Title III: The existing facility is identified as a potential major source of hazardous air pollutants (HAP).

Title IV: The existing facility operates no units subject to the acid rain provisions of the Clean Air Act.

Title V: The existing facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.

PSD: The existing facility is a PSD-major facility as defined in Rule 62-212.400, F.A.C.

Project Description

On September 9, 2004, the Department received an application to install a new white sugar dryer. On September 27, 2004, the Department requested additional information. On October 22, 2004 the Department received additional information making the application complete.

U.S. Sugar plans to install a second white sugar dryer in the refinery. The new unit will be a fluidized bed-type dryer/cooler manufactured by BMA (or equivalent) with a rated capacity of 85 tons per hour of refined sugar. After wet refined sugar is centrifuged, the dryer will be used to drive off remaining moisture. Sugar with a moisture content of approximately 1.5% by weight will enter the dryer between 120° - 140° F and be suspended in a fluidized bed with jets of hot, conditioned air. A maximum of 11,000 pounds per hour of low pressure steam (12 psig) from the existing mill boilers will supply heat for the process. Sugar will exit the dryer with a moisture content of approximately 0.03% by weight and a temperature between 92° F - 102° F. The refined sugar is then transferred to the conditioning silos. No fuel will be fired and no other new process equipment is being added.

Due to the large volume of sugar being processed and the fluidized bed system, sugar particles will carryover into the dryer exhaust. The applicant proposes to control these particulate matter emissions with a set of four cyclone collectors followed by a wet scrubber. Captured sugar will be recycled back to the process. Exhaust at 110° F will leave a stack approximately 78 feet above ground level with a volumetric flow rate of 96,000 acfm. The rectangular stack will be 7.0 feet by 6.0 feet. The pressure drop across the wet scrubber will be continuously monitored.

2. APPLICABLE REGULATIONS

This project is subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The Florida Statutes authorize the Department of Environmental Protection to establish rules and

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

regulations regarding air quality as part of the Florida Administrative Code (F.A.C.). This project is subject to the applicable rules and regulations defined in the following Chapters of the Florida Administrative Code.

<u>Chapter</u>	<u>Description</u>
62-4	Permitting Requirements
62-204	Ambient Air Quality Requirements, PSD Increments, and Federal Regulations Adopted by Reference
62-210	Permits Required, Public Notice, Reports, Stack Height Policy, Circumvention, Excess Emissions, and Forms
62-212	Preconstruction Review, PSD Review and BACT, and Non-attainment Area Review and LAER
62-213	Title V Air Operation Permits for Major Sources of Air Pollution
62-296	Emission Limiting Standards
62-297	Test Methods and Procedures, Continuous Monitoring Specifications, and Alternate Sampling Procedures

Federal Regulations

The Environmental Protection Agency establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 identifies New Source Performance Standards (NSPS) for a variety of industrial activities. Part 61 specifies the National Emissions Standards for Hazardous Air Pollutant (NESHAP) based on specific pollutants. Part 63 identifies National Emissions Standards for Hazardous Air Pollutant (NESHAP) based on the Maximum Achievable Control Technology (MACT) for given source categories. No federal regulations were identified as applicable for this project.

General PSD Applicability

The Department regulates major air pollution facilities in accordance with Florida's Prevention of Significant Deterioration (PSD) program, as approved by the EPA in Florida's State Implementation Plan and defined in Rule 62-212.400, F.A.C. A PSD review is required in areas currently in attainment with the state and federal Ambient Air Quality Standards (AAQS) or areas designated as "unclassifiable" for a given pollutant. A facility is considered "major" with respect to PSD if it emits or has the potential to emit: 250 tons per year or more of any regulated air pollutant, or 100 tons per year or more of any regulated air pollutant and the facility belongs to one of the 28 PSD Major Facility Categories (Table 62-212.400-1, F.A.C.), or 5 tons per year of lead.

For new projects at existing PSD-major sources, each regulated pollutant is reviewed for PSD applicability based on emissions thresholds known as the Significant Emission Rates listed in Table 62-212.400-2, F.A.C. Pollutant emissions from the project exceeding these rates are considered "significant" and the applicant must employ the Best Available Control Technology (BACT) to minimize emissions of each such pollutant and evaluate the air quality impacts. Although a facility may be "major" with respect to PSD for only one regulated pollutant, it may be required to install BACT controls for several "significant" regulated pollutants.

PSD Applicability for the Project

The existing Clewiston sugar mill and refinery is located in an area that is currently in attainment with the state and federal Ambient Air Quality Standards (AAQS) or otherwise designated as unclassifiable. The actual and potential annual emissions of several pollutants from the facility are greater than the applicability thresholds defined above. Therefore, the sugar mill and refinery is an existing PSD-major facility as defined in Rule 62-212.400, F.A.C.

Particulate matter emissions from the new sugar dryer alone (18.4 tons/year) trigger PSD preconstruction review. However, the addition of the new dryer will also result in a slight maximum daily sugar production increase (2200 tons per day to 2250 tons per day). This change will make it possible for the refinery to realize its full production potential. Therefore, the applicant also evaluated the potential emissions increases from the existing refinery activities in the net emissions increases for the project. Existing refinery activities include: a granular carbon regenerative furnace (GCRF); miscellaneous alcohol usage; two additional sugar dryers, two bagging systems, several screening and distribution systems, and other miscellaneous particulate matter sources.

The refinery activities were last reviewed and permitted in 2001 as part of the Boiler 4 modification/expansion project. Potential VOC emissions from alcohol usage are minimal – a maximum of 15 tons per year. The only combustion source is the GCRF, which controls emissions with an afterburner and wet scrubber. Controlled potential annual emissions from the GCRF are well below the PSD significant emissions rates. All other refinery activities are miscellaneous particulate matter sources, which are controlled by fabric filters.

Net emissions increases of carbon monoxide, nitrogen oxides, sulfur dioxide, and volatile organic compounds resulting from the project are well below the PSD significant emission rates. The baseline (past actual) particulate matter emissions from the refinery are estimated to be 13.3 tons per year. After installation of the new sugar dryer, the potential particulate matter emissions from the refinery are estimated to be 38.4 tons per year. The net emissions increase from the project is 25.1 tons per year. Assuming all of the particulate matter is PM₁₀, this is greater than the PSD significant emission rate of 15 tons per year and the project triggers preconstruction review for particulate matter.

The applicant contends that the review for Best Available Control Technology (BACT) is applied only to the new white sugar dryer because the other refinery equipment will not undergo a physical modification or a change in the method of operation. The Department does not agree with this interpretation. Nevertheless, the Department does agree to focus the BACT review on emissions from the new sugar dryer because the bulk of the emissions increases are from this new unit and the other refinery sources are already well controlled.

The applicant also cited Rule 62-212.400(3)(d), which states, “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.” These referenced paragraphs relate to the following air quality modeling requirements: (d) Ambient Impact Analysis; (e) Additional Impact Analyses; (f) Pre-construction Air Quality Monitoring and Analysis; and (g) Post-construction Monitoring. The applicant states that the project is not subject to the PSD air quality modeling requirements because the facility was in existence prior to March 1, 1978. However, impacts with regard to the state and federal Ambient Air Quality Standards and federal Class I areas must still be reviewed.

3. PROJECT REVIEW

Applicant’s Proposal

The dryer is relatively large (85 tons/hour) and consists of a fluidized bed to provide as much contact area as possible to drive off moisture. Therefore, it is expected that substantial amounts of sugar particles will carryover into the dryer exhaust (14 grains per dscf of inlet gas or 11,760 lb/hour). To control these emissions, the applicant identified the following equipment as technically feasible for the project and ranked each according to control efficiency.

1. Fabric Filters (> 99%);
2. Electrostatic Precipitators (> 99%);
3. Wet Scrubbers (50% to 95%);
4. Cyclones (60% to 99%);
5. Mechanically-aided Separators (20% to 30%);
6. Momentum Separators (10% to 20%);
7. Settling Chambers (< 10%); and
8. Elutriators (< 10%).

Although control efficiencies for the above equipment are dependent on particle size, fabric filters and ESPs are generally recognized as the top control technologies for particulate matter. The applicant contends that ESPs are specific to the makeup of the dust being controlled and there is no known installation of an ESP for controlling

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

sugar particles. For existing white sugar dryer No. 1, U.S. Sugar installed a fabric filter. This system resulted in good control, but high downtime for the refinery due to excessive bag wear. Therefore, the applicant proposes the following combination of controls for the new sugar dryer.

- An Entoleter, LLC Model 6600 cyclone collection system consisting of a set of four parallel high efficiency cyclones will be installed to remove particulate matter directly from the sugar dryer exhaust. The design removal efficiency is 99% based on the following inlet conditions: inlet temperature of 110° F; inlet flow rate of 105,000 acfm; inlet dust loading of 14 grains per dscf of inlet gas (11,760 lb/hour); and a pressure drop across the cyclone collectors of 6 inches of water column.
- An Entoleter, LLC Centrifield Vortex Model 1500 wet scrubbing system will be installed to remove additional particulate matter from the new cyclone collection system. The design removal efficiency is 96% based on the following inlet conditions: inlet temperature of 113° F; inlet flow rate of 105,000 acfm; inlet dust loading of 0.14 grains per dscf of inlet gas (118 lb/hour); a scrubber water recirculation flow rate of 500 gpm; a scrubber make-up water flow rate of 12 gpm; and a pressure drop of 6 inches of water column.

Based on the equipment manufacturer’s guarantee (Entoleter LLC), the following table summarizes the expected maximum emissions rates and removal efficiencies.

Table 3A. Cyclone Collectors/Wet Scrubber Data – PM Loading and Removal

Point	Inlet Loading		Control Efficiency	Outlet Loading	
	lb/hour	gr/dscf		lb/hour	gr/dscf
From Centrifuges	---	---	---	11,760	14
High-Efficiency Cyclones	11,760	14	~ 99%	118	0.14
Wet Scrubber	118	0.14	~ 96%	4.2	0.005
Overall	---	---	99.96%	---	---

As shown above, the overall collection efficiency of the proposed equipment is approximately 99.96%. The applicant notes that a fabric filter could be installed to boost the overall efficiency to 99.99% or greater. However, the applicant also noted the following adverse impacts from installing a fabric filter.

Economic Impacts: The following table summarizes the applicant’s cost estimates for a fabric filter and the cyclone/wet scrubber combination.

Table 3B. Estimated Control Equipment Costs

Cost	Fabric Filter	Cyclone/Wet Scrubber	Difference
Total Capital Costs	\$831,705	\$676,053	\$155,652
Annualized Costs	\$526,397	\$285,919	\$240,478
Cost Effectiveness	\$10/ton PM removed	\$6/ton PM removed	\$4/ton PM removed

The applicant notes that the difference in annualized costs is about \$240,000 and contends that the additional costs are primarily due to increased maintenance costs related to bag replacements. The cyclone/wet scrubber combination results in particulate matter emissions of 18.4 tons/year and the fabric filter option results in particulate matter emissions of 6.6 tons/year, which is an additional removal of 11.8 tons/year. The incremental cost effectiveness to remove this additional amount is about \$20,000 per ton of additional particulate matter removed.

Energy and Environmental Impacts: The applicant notes that a fabric filter results in lower energy requirements. The applicant believes that no adverse environmental impacts will result from the uses of a

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

cyclone/wet scrubber combination. Neither control system results in a waste stream because the captured sugar is recycled back to the process.

The applicant believes that the additional costs associated with a fabric filter represent an unacceptable economic burden that results in little environmental benefit to the environment (12 tons per year reduction). Therefore, U.S. Sugar proposes the combination of a cyclone collection and wet scrubber system as BACT for this project with the following emissions standard.

$PM \leq 0.005$ grains per dscf and 4.2 lb/hour

Department's Review

In a reply to the Department's request, the applicant provided the following information with regard to the expected particle size, "The sugar in the dryer/cooler has the following properties: Mean aperture (MA) size = 410 microns, with a coefficient of variation (CV) = 47.76%. Theoretically, all particles up to 155 microns will be carried out of the dryer/cooler to the cyclones. The outlet dust loading from the scrubber will not exceed 0.005 grains/cubic foot for particulate matter greater than 1 micron."

Cyclone collection efficiencies are a function of particle size and cyclone design. A 1998 EPA report indicates that single high-efficiency cyclones can remove 5 micron particles with 90% efficiency and higher for larger particles ["Stationary Source Control Techniques Document for Fine Particulate Matter"; EPA Contract No. 68-D-98-026; October 1998; Prepared by EC/R Incorporated]. An EPA fact sheet for cyclones, states that, "The control efficiency ranges for high efficiency single cyclones are 80 to 99 percent for PM, 60 to 95 percent for PM₁₀, and 20 to 70 percent for PM_{2.5}." [EPA-452/F-03-005] Based on the available information and the equipment vendor's guarantee, a control efficiency of 99% for the large sugar particles appears achievable with a high efficiency cyclone.

The Department accepts the applicant's contention that an ESP may not be an appropriate application for the control of sugar particles. A fabric filter is recognized as the top control (99.99% control efficiency), but the cyclone/wet scrubber combination (99.96% overall control efficiency) is within the same approximate range. Based on the information provided, both a fabric filter (\$10/ton of PM removed) and a cyclone/wet scrubber combination (\$6/ton PM removed) are well within the Department's consideration of cost effectiveness. Therefore, the Department discounts the applicant's argument regarding incremental costs between the options.

The applicant provided additional information regarding the existing fabric filter used to control sugar particulate from the existing dryer No. 1.

- The relative high humidity causes caking and bridging of the bags from the sugar particles. The moisture is generated from the drying process as well as from ambient air drawn into fabric filter. This leads to high pressure differentials and velocities resulting in premature bag failure.
- The sugar particles are very abrasive and cause excessive wear, particularly on the first row of bags. Also, the metal studs holding the secondary venturi in place had to be replaced because the abrasive particles eroded the original studs.
- There are 600 bags in the fabric filter and each bag costs \$60. The labor cost to replace an individual bag is about \$102 (much lower for replacing multiple bags). Over the last five years of operation, U.S. Sugar replaced an average of 1224 bags each year resulting in an annual labor cost of approximately \$15,500 and an equipment replacement cost of approximately \$73,000. In addition to the timely replacement of damaged bags, full bag replacements are now scheduled during planned outages twice a year.
- Each time that individual bags are replaced, the sugar dryer must be shut down for about four hours. In the refinery, the crystallizer pans are put on hold and the steam production scaled back to minimize blow off. Based on actual operating costs over the last five years, U.S. Sugar estimates that this loss in production is \$51,000 per day.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

The Department concludes that a control efficiency of 99.96% will represent BACT for particulate matter emissions from the new sugar dryer. The following standards represent the draft Best Available Control Technology for the project.

PM \leq 0.005 grains per dscf and 4.2 lb/hour

Opacity \leq 10% based on a 6-minute average excluding water vapor

The above standards are based on the installation of a high efficiency cyclone collector/wet scrubber combination with an overall control efficiency of 99.96%. A fabric filter system would also be effective. In making this determination, the Department considered the overall control efficiencies of the two systems, the nature of the particulate matter emitted (sugar), the application of the control equipment (sugar dryer), U.S. Sugar's actual operating experience with a fabric filter on the existing dryer, and the fact that there is an economic incentive to recover and recycle the sugar.

Previously issued Permit No. PSD-FL-272A limits daily sugar production to 2200 tons per day. The new sugar dryer will allow a slight increase in the daily sugar production from 2200 to 2250 tons per day. The net emissions increases from relaxing this limit were included in the review of the current PSD air permit project. Therefore, the draft permit revises Condition 2 (Section III, Subsection F) of Permit No. PSD-FL-272A and increases the limit on daily sugar production to 2250 tons per day.

4. AIR QUALITY ANALYSIS

Rule 62-212.400(3)(d), F.A.C., 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 requirements are: (d) Ambient Impact Analysis, (e) Additional Impact Analysis, (f) Preconstruction Air Quality Monitoring and Analysis, and (g) Post Construction Monitoring.

The PSD significant emission rate for particulate matter (PM₁₀) is 15 tons per year. The project to a new white sugar dryer will result in a net PM₁₀ emissions increase from the refinery sources of about 25 tons per year. The facility was in existence prior to March 1, 1978. Therefore, the project is subject to PSD modeling requirements for PM₁₀, but may be exempt from the modeling requirements as indicated in the above rule.

Although the exemption in Rule 62-212.400(3)(d), F.A.C does not extend to modeling for Class I impacts, the applicant submitted a request to the National Park Service for a determination of the Class I modeling requirements for the project. Based on the specific details of the project, the National Park Service concluded that a Class I analysis (including a Class I increment analysis and an Air Quality Related Values analysis) would not be required. The Department deferred to the determination made by the National Park Service. Therefore, the applicant must only conduct a modeling analysis to demonstrate that the modification will not cause or contribute to a violation of an Ambient Air Quality Standard for PM₁₀.

Ambient Air Quality Standards (AAQS) Analysis

The applicant is required to perform a Significant Impact Analysis, which models only the impacts from the project. If the predicted impacts are below the PSD Significant Impact Levels specified in Rule 62-204.200(29), F.A.C., the project is not considered significant and no further analysis is required. The applicant used the ISC-PRIME dispersion model. This model was approved by EPA Region 4 for previous projects at the Clewiston mill and must continue to be used for subsequent projects. The model included meteorological surface and upper air data (1987 - 1991) collected by the National Weather Service at the Palm Beach International Airport. The following table summarizes the results of the Significant Impact Analysis.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Table 4A. Summary of Significant Impact Analysis for PM10

Pollutant	Averaging Time	Maximum Predicted Impact ($\mu\text{g}/\text{m}^3$)	PSD Significant Impact Level ($\mu\text{g}/\text{m}^3$)	Baseline Concentrations ($\mu\text{g}/\text{m}^3$)	AAQS ($\mu\text{g}/\text{m}^3$)	Significant Impact?
PM10	Annual 24-Hour	0.88	1	~ 20	50	No
		6.9	5	~ 40	150	Yes

Although the maximum predicted impacts are shown to be well below the respective AAQS and baseline concentrations, the 24-hour predicted impact is above the PSD Significant Impact Level of $5 \mu\text{g}/\text{m}^3$. Therefore, the applicant is required to perform additional refined modeling to further demonstrate compliance with the AAQS. The refined modeling analysis was based on the same model and meteorological data, but included a more detailed receptor grid as well as other sources of PM10 within the vicinity of the plant. The following table summarizes the results of the refined modeling analysis.

Table 4B. Summary of Refined AAQS Modeling Analysis for PM10

Pollutant	Averaging Time	Baseline Concentrations ($\mu\text{g}/\text{m}^3$)	All Modeled Sources ($\mu\text{g}/\text{m}^3$)	Maximum Predicted Impact ($\mu\text{g}/\text{m}^3$)	AAQS ($\mu\text{g}/\text{m}^3$)
PM10	24-Hour	~ 40	28.5	68.5	150

As shown in the above table, the modeling shows that the project will not cause or contribute to a violation of the state and federal Ambient Air Quality Standard for PM10.

5. PRELIMINARY DETERMINATION

Copies of the application were provided to the EPA Region 4 Office, the National Park Service, and the Department's South District Office. The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. Jeff Koerner is the project engineer responsible for reviewing the application and drafting the permit changes. Deborah Nelson is the staff meteorologist responsible for reviewing the ambient air quality analyses. Additional details of this analysis may be obtained by contacting the project engineer at the Department's Bureau of Air Regulation at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

{Filename: PSD-FL-346 Sugar Dryer - TEPD}

DRAFT PERMIT

PERMITTEE:

United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, FL 33440

Authorized Representative:

Mr. William A. Raiola, V.P. of Sugar Processing Operations

Clewiston Sugar Mill and Refinery Air Permit No. PSD-FL-346 Project No. 0510003-026-AC Facility ID No. 0510003 SIC Nos. 2061, 2062 Permit Expires: December 31, 2005

FACILITY AND LOCATION

The United States Sugar Corporation operates the existing Clewiston sugar mill and refinery, which is located at the intersection of W.C. Owens Avenue and State Road 832 in Hendry County, Florida. Sugarcane is harvested from nearby fields and transported to the mill by train. In the mill, sugarcane is cut into small pieces and passed through a series of presses to squeeze juice from the cane. The juice undergoes clarification, separation, evaporation, and crystallization to produce raw, unrefined sugar. In the refinery, raw sugar is decolorized, concentrated, crystallized, dried, conditioned, screened, packaged, stored, and distributed as refined sugar. The fibrous byproduct remaining from the sugarcane is called bagasse and is burned as boiler fuel to provide steam and heating requirements for the mill and refinery.

STATEMENT OF BASIS

This permit authorizes the construction of a second white sugar dryer (EU-029) with a capacity of 85 tons per hour of sugar. Particulate matter emissions will be controlled with high efficiency cyclone collectors followed by a wet scrubber. The permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to perform the proposed work in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department.

CONTENTS

- Section 1. General Information
- Section 2. Administrative Requirements
- Section 3. Emissions Units Specific Conditions
- Section 4. Appendices

(DRAFT PERMIT)

Michael G. Cooke, Director
Division of Air Resource Management

Effective Date

SECTION 1. GENERAL INFORMATION

PROJECT DESCRIPTION

The United States Sugar Corporation proposes to install a second white sugar dryer No. 2 (EU-029) to support the existing refinery operations. The new dryer will operate in parallel with existing white sugar dryer No. 1 (EU-016). Particulate matter emissions will be controlled by a set of four high efficiency cyclone collectors in parallel followed by a wet scrubber. The new sugar dryer will allow a slight increase in the daily sugar production from 2200 to 2250 tons of sugar per day. Therefore, this permit will also revise Condition 2 (Section III, Subsection F) in existing Permit No. PSD-FL-272A accordingly.

REGULATORY CLASSIFICATION

Title III: The existing facility is a potential major source of hazardous air pollutants (HAP).

Title IV: The existing facility has no units subject to the acid rain provisions of the Clean Air Act.

Title V: The existing facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.

PSD: The existing facility is a PSD-major facility as defined in Rule 62-212.400, F.A.C.

APPENDICES

The following Appendices are attached as part of this permit.

Appendix A. Citation Formats

Appendix B. General Conditions

Appendix C. Common Requirements

RELEVANT DOCUMENTS

The permit application and additional information received to make it complete are not a part of this permit; however, the information is specifically related to this permitting action and is on file with the Department.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Florida Department of Environmental Protection's Bureau of Air Regulation. The mailing address is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Department's South District Office at 2295 Victoria Avenue, Suite 364, Fort Myers, Florida, 33901-3381.
3. Citation Formats: Appendix A identifies the methods used to cite rules, regulations, and permits.
4. General Conditions: The permittee shall comply with the general conditions specified in Appendix B.
5. Common Requirements: Common regulatory requirements are specified in Appendix C.
6. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of the subject emissions unit shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403 of the Florida Statutes (F.S.); Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The terms used in this permit have specific meanings as defined in the applicable chapters of the Florida Administrative Code. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]
7. Construction and Expiration: The permit expiration date includes sufficient time to complete construction, perform required testing, submit test reports, and submit an application for a Title V operation permit to the Department. Approval to construct shall become invalid for any of the following reasons: construction is not commenced within 18 months after issuance of this permit; construction is discontinued for a period of 18 months or more; or construction is not completed within a reasonable time. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified. In conjunction with an extension of the 18-month period to commence or continue construction (or to construct the project in phases), the Department may require the permittee to demonstrate the adequacy of any previous determination of Best Available Control Technology (BACT) for emissions units regulated by the project. For good cause, the permittee may request that this PSD air construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation at least sixty (60) days prior to the expiration of this permit. [Rules 62-4.070(4), 62-4.080, 62-210.300(1), and 62-212.400(6)(b), F.A.C.; 40 CFR 52.21(r)(2); 40 CFR 51.166(j)(4)]
8. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
9. Relaxations of Restrictions on Pollutant Emitting Capacity. If a previously permitted facility or modification becomes a facility or modification which would be subject to the preconstruction review requirements of this rule if it were a proposed new facility or modification solely by virtue of a relaxation in any federally enforceable limitation on the capacity of the facility or modification to emit a pollutant (such as a restriction on hours of operation), which limitation was established after August 7, 1980, then at the time of such relaxation the preconstruction review requirements of this rule shall apply to the facility or modification as though construction had not yet commenced on it. [Rule 62-212.400(2)(g), F.A.C.]
10. Modifications: No emissions unit or facility subject to this permit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rule 62-4.030 and Chapters 62-210 and 62-212, F.A.C.]

SECTION 2. ADMINISTRATIVE REQUIREMENTS

11. **Title V Permit:** This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the Department's South District Office. [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]



SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. White Sugar Dryer No. 2 (EU-029)

This section of the permit addresses the following new emissions unit.

ID	Emission Unit Description
029	<p>The new white sugar dryer will be a fluidized bed-type dryer/cooler with a rated capacity of 85 tons per hour of refined sugar. After wet refined sugar is centrifuged, the dryer will be used to drive off remaining moisture. Sugar with a moisture content of approximately 1.5% by weight will enter the dryer between 120° - 140° F and be suspended in a fluidized bed with jets of hot, conditioned air. A maximum of 11,000 pounds per hour of low pressure steam (12 psig) from the existing mill boilers will supply heat for the process. Sugar will exit the dryer with a moisture content of approximately 0.03% by weight and a temperature between 92° F - 102° F. The refined sugar is then transferred to the conditioning silos. No fuel will be fired and no other new equipment is being added.</p> <p>Particulate matter emissions from the dryer will be controlled by a set of four high efficiency cyclone collectors in parallel followed by a wet scrubber. Exhaust at 110° F will leave a stack approximately 78 feet above ground level with a volumetric flow rate of 96,000 acfm. The rectangular stack will be 7.0 feet by 6.0 feet. The scrubber pressure drop and scrubber water recirculation flow rate will be continuously monitored.</p>

{Permitting Note: The particulate matter emissions standards for the new dryer are established pursuant to Rule 62-212.400, F.A.C (BACT).}

EQUIPMENT

1. New White Sugar Dryer No. 2: The permittee is authorized to construct a new fluidized bed white sugar dryer/cooler (BMA or equivalent) with a rated capacity of 85 tons per hour. Jets of hot conditioned air will be used in the dryer to suspend sugar in a fluidized bed to drive off excess moisture. Low pressure steam will be used to heat the conditioned air; no fuel will be fired. [Design]
2. Air Pollution Control Equipment: To comply with the standards of this permit, the permittee shall install the following air pollution control equipment.
 - a. Cyclone Collectors: In accordance with the manufacturer’s recommendations, the permittee shall install, operate, and maintain a set of four high efficiency cyclone collectors (Entoleter, LLC Model 6600 or equivalent) in parallel with a design removal efficiency of at least 99% of the particulate loading from the new white sugar dryer. The design control efficiency is based on the following inlet conditions: inlet temperature of 110° F; inlet flow rate of 105,000 acfm; inlet dust loading of 14 grains per dscf of inlet gas (11,760 lb/hour); and a pressure drop across the cyclone collectors of 6 inches of water column.
 - b. Wet Scrubber: In accordance with the manufacturer’s recommendations, the permittee shall install, operate, and maintain a wet scrubber (Entoleter, LLC Centrifield Vortex Model 1500 or equivalent) with a design removal efficiency of at least 96% of the particulate loading from the new cyclone collectors. The design control efficiency is based on the following inlet conditions: inlet temperature of 113° F; inlet flow rate of 105,000 acfm; inlet dust loading of 0.14 grains per dscf of inlet gas (118 lb/hour); a scrubber water recirculation flow rate of 500 gpm; a scrubber make-up water flow rate of 12 gpm; and a pressure drop of 6 inches of water column.

The combined design removal efficiency of the two particulate control devices shall be no less than 99.96% based on the above conditions. To comply with this requirement, the permittee shall submit the final design requirements and manufacturer’s specifications sheets to the Department within 90 days of final selection.

[Design; Rules 62-4.070(3) and 62-212.400(BACT), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. White Sugar Dryer No. 2 (EU-029)

PERFORMANCE REQUIREMENTS

3. Permitted Capacity: The maximum design capacity of the new sugar dryer is 85 tons per hour of sugar. [Design; Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]
4. Wet Scrubber: The pressure differential across the wet scrubber shall be maintained above 6 inches of water column based on a 1-hour average. The scrubber water recirculation flow rate shall be maintained above 500 gpm based on a 1-hour average. If either monitored parameter drops below the specified level, the permittee shall investigate, take corrective actions to regain the specified operating level, and record the incident in a written log. Operation outside of the specified operating range for any monitored parameter is not a violation of this permit, in and of itself. However, continued operation outside of the specified operating range for any monitored parameter without taking corrective action may be considered circumvention of the air pollution control equipment. [Design; Rule 62-4.070(3), F.A.C.]

EMISSIONS STANDARDS

5. Particulate Matter: As determined by EPA Method 5 stack test, particulate matter emissions shall not exceed 0.005 grains per dscf and 4.2 pounds per hour based on the average of three test runs. [Design; Rule 62-212.400(BACT), F.A.C.]
6. Visible Emissions: Excluding water vapor, visible emissions from the wet scrubber stack shall not exceed 10% opacity. [Rule 62-212.400(BACT), F.A.C.]

TESTING REQUIREMENTS

7. Compliance Stack Tests: The permittee shall conduct an initial stack test to demonstrate compliance with the particulate matter emissions standards within 60 days after achieving the maximum sugar processing rate, but not later than 180 days after initial startup. The permittee shall also conduct subsequent stack tests to demonstrate compliance with the particulate matter emissions standards during the 12-month period prior to the expiration date of any air operation permit. Tests shall be conducted in accordance with EPA Method 5 (particulate emissions), EPA Methods 1 – 4 (as necessary to support EPA Method 5), and EPA Method 9 (visible emissions). The EPA test methods and procedures are specified in Appendix A of 40 CFR 60 and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. In accordance with Rule 62-297.310(2), F.A.C., all tests shall be conducted at permitted capacity. The Department may require the permittee to repeat some or all of these initial stack tests after major replacement or major repair of any air pollution control or process equipment. [Rules 62-204.800, 62-212.400(BACT) and 62-297.310(7)(a) and (b), F.A.C.; 40 CFR 60.8; 40 CFR 60, Appendix A]

MONITORING REQUIREMENTS

8. Cyclone Collectors: In accordance with the manufacturer's recommendations, the permittee shall install, calibrate, operate and maintain a manometer (or equivalent) to monitor the pressure differential across each cyclone collector. *{Permitting Note: The design pressure differential for the cyclone collectors is 6 inches of water column. Although no periodic records of the pressure differential are required, the devices shall be properly maintained and functional to provide operational data for evaluating problems.}* [Rule 62-4.070(3), F.A.C.]
9. Wet Scrubber Parameters: In accordance with the manufacturer's recommendations, the permittee shall install, calibrate, operate and maintain devices to continuously monitor and record the wet scrubber water recirculation rate (gpm) and the pressure differential across the wet scrubber (inches of water column). Records shall be maintained on site and made available upon request. [Design; Rules 62-4.070(3) and 62-

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. White Sugar Dryer No. 2 (EU-029)

212.400(BACT), F.A.C.]

RECORDS AND REPORTS

10. Stack Test Reports: In addition to the information required in Rule 62-297.310(8), F.A.C., each stack test report shall also include the following information: sugar processing rate through the dryer (tons per hour); the scrubber water recirculation rate (gpm); and the pressure differential across the wet scrubber (inches of water column). In addition, the permittee shall record and report the pressure differential across each cyclone collector at the beginning and end of each test run. [Rule 62-4.070(3), F.A.C.]

DRAFT AIR PERMIT

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

B. Miscellaneous Particulate Sources (EU-015, 016, 018, 019, 020, 022, and 029)

This section of the permit addresses the following emissions units.

EU No.	Emissions Unit Description
015	VHP sugar dryer with baghouse (S-11)
016	White sugar dryer No. 1 with baghouse (S-10)
018	Vacuum Systems: Screening/distribution vacuum with baghouse (S-1); 100 lb bagging vacuum with baghouse (S-2); 5 lb bagging vacuum with baghouse (S-3)
019	Six conditioning silos with baghouses (S-7, S-8, S-9, S-13, S-14, and S-15)
020	Screening/distribution and powdered sugar/starch bins with baghouses (S-5, S-6, and S-16)
022	Packaging baghouse (S-4)
029	White sugar dryer No. 2 with wet scrubber (S-13)

MODIFIED CONDITION

Condition 2 (Section III, Subsection F) in Permit No. PSD-FL-272A is changed:

From:

2. Production Restrictions: No more than 2000 tons of refined sugar per day nor 730,000 tons of refined sugar per consecutive 12 months shall be packaged at this facility. In addition, no more than 2200 tons of refined sugar per day nor 803,000 tons of refined sugar per consecutive 12 months shall be loaded out from this facility. [Applicant Request; Rule 62-210.200 (Definitions - PTE), F.A.C.]

To:

2. Production Restrictions: No more than 2000 tons of refined sugar per day and no more than 730,000 tons of refined sugar per consecutive 12 months shall be packaged at this facility. In addition, no more than 2250 tons of refined sugar per day and no more than 803,000 tons of refined sugar per consecutive 12 months shall be loaded out from this facility. [Applicant Request; Rules 62-210.200 (PTE) and 62-212.400(2)(g), F.A.C., F.A.C.; Air Permit No. PSD-FL-346]

All other conditions in Permit No. PSD-FL-272A shall remain unchanged.

Filename: PSD-FL-346 Sugar Dryer - Draft Permit

SECTION 4. APPENDICES

Contents

- Appendix A. Citation Formats
- Appendix B. General Conditions
- Appendix C. Common Requirements

SECTION 4. APPENDIX A

Citation Formats

The following examples illustrate the format used in the permit to identify applicable permitting actions and regulations.

REFERENCES TO PREVIOUS PERMITTING ACTIONS

Old Permit Numbers

Example: Permit No. AC50-123456 or Air Permit No. AO50-123456

Where: "AC" identifies the permit as an Air Construction Permit
"AO" identifies the permit as an Air Operation Permit
"123456" identifies the specific permit project number

New Permit Numbers

Example: Permit Nos. 099-2222-001-AC, 099-2222-001-AF, 099-2222-001-AO, or 099-2222-001-AV

Where: "099" represents the specific county ID number in which the project is located
"2222" represents the specific facility ID number
"001" identifies the specific permit project
"AC" identifies the permit as an air construction permit
"AF" identifies the permit as a minor federally enforceable state operation permit
"AO" identifies the permit as a minor source air operation permit
"AV" identifies the permit as a Title V Major Source Air Operation Permit

PSD Permit Numbers

Example: Permit No. PSD-FL-317

Where: "PSD" means issued pursuant to the Prevention of Significant Deterioration of Air Quality
"FL" means that the permit was issued by the State of Florida
"317" identifies the specific permit project

RULE CITATION FORMATS

Florida Administrative Code (F.A.C.)

Example: [Rule 62-213.205, F.A.C.]

Means: Title 62, Chapter 213, Rule 205 of the Florida Administrative Code

Code of Federal Regulations (CFR)

Example: [40 CFR 60.7 or §60.7]

Means: Title 40, Part 60, Section 7

SECTION 4. APPENDIX B

General Conditions

The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
 - a. Have access to and copy and records that must be kept under the conditions of the permit;
 - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
 - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
 - a. A description of and cause of non-compliance; and
 - b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

SECTION 4. APPENDIX B

General Conditions

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
13. This permit also constitutes:
 - a. Determination of Best Available Control Technology (Yes);
 - b. Determination of Prevention of Significant Deterioration (Yes); and
 - c. Compliance with New Source Performance Standards (Not Applicable).
14. The permittee shall comply with the following:
 - a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
 - b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
 - c. Records of monitoring information shall include:
 - 1) The date, exact place, and time of sampling or measurements;
 - 2) The person responsible for performing the sampling or measurements;
 - 3) The dates analyses were performed;
 - 4) The person responsible for performing the analyses;
 - 5) The analytical techniques or methods used; and
 - 6) The results of such analyses.
15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SECTION 4. APPENDIX C

Common Requirements

{Permitting Note: Unless otherwise specified by permit, the following conditions apply to all emissions units and activities at this facility.}

Definitions

1. **Excess Emissions:** Emissions of pollutants in excess of those allowed by any applicable air pollution rule of the Department, or by a permit issued pursuant to any such rule or Chapter 62-4, F.A.C. The term applies only to conditions which occur during startup, shutdown, soot-blowing, load changing or malfunction. [Rule 62-210.200(106), F.A.C.]
2. **Shutdown:** The cessation of the operation of an emissions unit for any purpose. [Rule 62-210.200(231), F.A.C.]
3. **Startup:** The commencement of operation of any emissions unit which has shut down or ceased operation for a period of time sufficient to cause temperature, pressure, chemical or pollution control device imbalances, which result in excess emissions. [Rule 62-210.200(246), F.A.C.]
4. **Malfunction:** Any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner. [Rule 62-210.200(160), F.A.C.]

Emissions and Controls

5. **Plant Operation - Problems:** If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall notify each Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit or the regulations. [Rule 62-4.130, F.A.C.]
6. **Circumvention:** The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]
7. **Excess Emissions Allowed:** Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700(1), F.A.C.]
8. **Excess Emissions Prohibited:** Excess emissions caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]
9. **Excess Emissions - Notification:** In case of excess emissions resulting from malfunctions, the permittee shall notify the Department or the appropriate Local Program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700(6), F.A.C.]
10. **Objectionable Odor Prohibited:** No person shall cause, suffer, allow or permit the discharge of air pollutants, which cause or contribute to an objectionable odor. An "objectionable odor" means any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [Rules 62-296.320(2) and 62-210.200(203), F.A.C.]
11. **General Visible Emissions:** No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20 percent opacity. [Rule 62-296.320(4)(b)1, F.A.C.]
12. **Unconfined Particulate Emissions:** During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as confining, containing, covering, and/or applying water to the affected areas, as necessary. [Rule 62-296.320(4)(c), F.A.C.]

TESTING REQUIREMENTS

13. **Required Number of Test Runs:** For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three

SECTION 4. APPENDIX C

Common Requirements

complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured; provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five-day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five-day period allowed for the test, the Secretary or his or her designee may accept the results of two complete runs as proof of compliance, provided that the arithmetic mean of the two complete runs is at least 20% below the allowable emission limiting standard. [Rule 62-297.310(1), F.A.C.]

14. Operating Rate During Testing: Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. [Rule 62-297.310(2), F.A.C.]
15. Calculation of Emission Rate: For each emissions performance test, the indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule. [Rule 62-297.310(3), F.A.C.]
16. Test Procedures: Tests shall be conducted in accordance with all applicable requirements of Chapter 62-297, F.A.C.
 - a. *Required Sampling Time*. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes. The minimum observation period for a visible emissions compliance test shall be thirty (30) minutes. The observation period shall include the period during which the highest opacity can reasonably be expected to occur.
 - b. *Minimum Sample Volume*. Unless otherwise specified in the applicable rule or test method, the minimum sample volume per run shall be 25 dry standard cubic feet.
 - c. *Calibration of Sampling Equipment*. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, F.A.C.

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

17. Determination of Process Variables
 - a. *Required Equipment*. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
 - b. *Accuracy of Equipment*. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

18. Sampling Facilities: The permittee shall install permanent stack sampling ports and provide sampling facilities that meet the requirements of Rule 62-297.310(6), F.A.C.
19. Test Notification: The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator. [Rule 62-297.310(7)(a)9, F.A.C.]

SECTION 4. APPENDIX C

Common Requirements

20. **Special Compliance Tests:** When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. [Rule 62-297.310(7)(b), F.A.C.]
21. **Test Reports:** The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test. The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:
1. The type, location, and designation of the emissions unit tested.
 2. The facility at which the emissions unit is located.
 3. The owner or operator of the emissions unit.
 4. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
 5. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
 6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
 7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
 8. The date, starting time and duration of each sampling run.
 9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
 10. The number of points sampled and configuration and location of the sampling plane.
 11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
 12. The type, manufacturer and configuration of the sampling equipment used.
 13. Data related to the required calibration of the test equipment.
 14. Data on the identification, processing and weights of all filters used.
 15. Data on the types and amounts of any chemical solutions used.
 16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
 17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
 18. All measured and calculated data required to be determined by each applicable test procedure for each run.
 19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
 20. The applicable emission standard and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.
 21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]

SECTION 4. APPENDIX C

Common Requirements

RECORDS AND REPORTS

22. Records Retention: All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least five (5) years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. Information recorded and stored as an electronic file shall be made available within at least three days of a request. [Rules 62-4.160(14) and 62-213.440(1)(b)2, F.A.C.]
23. Annual Operating Report: The permittee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to the Compliance Authority by March 1st of each year. [Rule 62-210.370(2), F.A.C.]

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 Mr. William A. Raiola, V.P.
 of Sugar Processing Operations
 United States Sugar Corporation
 Clewiston Sugar Mill and
 Refinery
 111 Ponce DeLeon Avenue
 Clewiston, Florida 33440

2. Article Number
 (Transfer from service label) : 7000 1670 0013 3109 9212

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
 Addressee

B. Received by (Printed Name) C. Date of Delivery
 11/22/04

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

PS Form 3811, August 2001

Domestic Return Receipt

102595-02-M-1540

7000 1670 0013 3109 9212

U.S. Postal Service
CERTIFIED MAIL RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Postmark
Here

Mr. William A. Raiola
 United States Sugar Corporation
 Street, Apt. No., or P.O. Box No.
 111 Ponce DeLeon Avenue
 Clewiston, Florida 33440

PS Form 3800, May 2000

See Reverse for Instructions

Golder Associates Inc.

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



December 20, 2004

0437583

Florida Department of Environmental Regulation
Air Permitting South Program
2600 Blair Stone Road, MS #5505
Tallahassee, Florida 32399-2400

RECEIVED

DEC 22 2004

Attention: Mr. Jeff Koerner, P.E.

BUREAU OF AIR REGULATION

Re: Project No. 0510003-026-AC
U. S. Sugar Corporation – Clewiston Sugar Mill and Refinery
New Sugar Dryer No. 2
Draft Air Construction Permit

Dear Mr. Koerner:

United States Sugar Corporation (U.S. Sugar) and Golder Associates Inc. have received the Department's draft air construction permit no. 0510003-026-AC, dated November 16, 2004. We have reviewed the draft permit and developed comments. The comments are presented below.

1. Page 5 of 8, Section 3.A., Specific Condition 2. Air Pollution Control Equipment

This condition states in part "To comply with this requirement, the permittee shall submit the final design requirements and manufacturer's specifications sheets to the Department within 90 days of final selection."

It is noted that the information submitted with the permit application represents the final design requirements and includes the final manufacturer's specifications sheets. Therefore, this condition has already been satisfied, and it is requested therefore that this condition be revised accordingly.

2. Page 6 of 8, Section 3.A., Specific Condition 4. Wet Scrubber

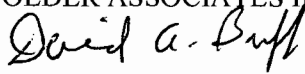
This condition requires that the wet scrubber operating parameters be based on a 1-hour average. It is requested that the averaging time be changed to "3-hour block average", consistent with the averaging time of the particulate matter test method (EPA Method 5), as well as Compliance Assurance Monitoring (CAM) requirements. Also, it is requested that the stated minimum pressure drop and scrubber water recirculation flow rate be allowed to be revised based on the compliance testing. Suggested wording is as follows:

Unless the permittee demonstrates through compliance testing that lower minimum scrubber operating parameters can achieve the particulate matter emission limit specified in Condition 5, the pressure differential across the wet shall be maintained above 6 inches water column based on a 3-hour average, and the scrubber water recirculation flow rate shall be maintained above 500 gallons per minute based on a 3-hour average. Any request to revise these minimum scrubber operating parameters shall be made in writing, as an operating change under Rule 62-213.410, provided the required 7-day notice is submitted to the Department and U.S. Environmental Protection Agency (EPA).

If you have any questions regarding this request, please call me at (352)336-5600 or email me at dbuff@golder.com.

Sincerely,

GOLDER ASSOCIATES INC.



David A. Buff, P.E., Q.E.P.
Principal Engineer
Florida P.E. #19011

cc: Mr. Don Griffin, USSC
Mr. Peter Briggs, USSC
Mr. Ron Blackburn, DEP South District Office
Mr. James Stormer, PBCHD

Y:\Projects\2004\0437583 USSC Scrubber\4\4.1\122004-583.doc



111 Ponce de Leon Ave.
Clewiston, Florida 33440-1207
Telephone 863/983-8121
Fax 863/902-2729

December 2, 2004

RECEIVED

DEC 13 2004

BUREAU OF AIR REGULATION

Florida Department of Environmental Protection
Post Office Box 2549
Fort Myers, Florida 33902-2549

RE: United States Sugar Corporation, Clewiston Refinery
Hendry County, Florida
White Sugar Dryer – Air Permit No. PSD-FL-346
File No. 0510003-026AC

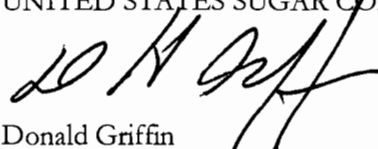
Gentlemen:

We are enclosing Affidavit of Publication certifying that the "Public Notice of Intent to Issue Air Permit" of reference was published in the legal section of the December 2, 2004 issue of *The Clewiston News*.

Please advise if there is anything further we need provide in this respect.

Sincerely,

UNITED STATES SUGAR CORPORATION



Donald Griffin
Manager, Specialty Sugar

DG:jt
Enclosure

Cc: Michael Low
Peter Briggs
David Buff

RECEIVED

DEC 07 2004

D.E.P. - SOUTH DISTRICT

The Clewiston News

Published Weekly

Clewiston, Florida

AFFIDAVIT OF PUBLICATION

State of Florida

County of Hendry

Before the undersigned authority, personally appeared Tracy Whirls, who on oath says she is the Associate Editor of the Clewiston News, a weekly newspaper published at Clewiston in Hendry County, Florida, that the attached copy of advertisement being a notice in the matter of public notice of intent to issue air permit. Ad # S37237

_____ in the _____ court, was published in said newspaper in the issue(s) of December 2, 2004.

Affiant further says that the said Clewiston News is a newspaper published at Clewiston, in said Hendry County, continuously published in said Hendry County, Florida, each week, and has been entered as periodicals matter at the post office in Clewiston, in said Hendry County, Florida, for a period of one year next preceding the first publication says that she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Tracy Whirls
Tracy Whirls

Sworn to and subscribed before me this 2nd day of December 2004

Wanda W. Graham
Wanda W. Graham Notary Public



PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

Florida Department of Environmental Protection
Project No. 0510003-026-AC / Draft Air Permit No. PSD-FL-345
United States Sugar Corporation, Clewiston Sugar Mill and Refinery
Hendry County, Florida

Applicant: The applicant for this project is the United States Sugar Corporation. The applicant's authorized representative is Mr. William A. Raioia, V.P. of Sugar Processing Operations. The applicant's mailing address is the Clewiston Sugar Mill and Refinery, 111 Ponce DeLeon Avenue, Clewiston, FL 33440.

Facility Location: The United States Sugar Corporation operates an existing sugar mill and refinery in Clewiston at the intersection of W.C. Owens Avenue and State Road 832 in Hendry County, Florida.

Project: The applicant proposes to install a second white sugar dryer, which will increase the refinery's potential production capacity from 2200 tons per day to 2250 tons per day. The existing Clewiston sugar mill/refinery is a major facility in accordance with Rule 62-212.400, F.A.C., the regulatory program for the Prevention of Significant Deterioration (PSD) of Air Quality. The existing facility is located in Hendry County, which is an area that is currently in attainment with the state and federal Ambient Air Quality Standards (AAQS) or otherwise designated as unclassifiable. Annual potential particulate matter (PM10) emissions are estimated to be greater than 15 tons per year. Therefore, the project is subject to PSD preconstruction review, which requires a determination of the Best Available Control Technology (BACT) and an ambient air quality analysis.

The Department concluded that an emission standard of 0.005 grains per dry standard cubic foot of exhaust represents BACT for particulate matter emissions from the new sugar dryer. The draft permit requires the installation of a set of four high efficiency cyclone collectors in parallel followed by a wet scrubber. Captured sugar will be recycled back to the process. After control, the project will emit approximately 18 tons per year of particulate matter.

The applicant's air quality modeling analysis showed that emissions from the project would not exceed the PSD significant impact level for particulate matter based on an annual average ($1 \mu\text{g}/\text{m}^3$). The applicant's refined air quality modeling analysis showed that emissions from the project combined with other nearby sources would result in a maximum predicted impact of $68.5 \mu\text{g}/\text{m}^3$ based on a 24-hour average. This is well below the state and federal Ambient Air Quality Standard for particulate matter of $150 \mu\text{g}/\text{m}^3$ based on a 24-hour average. The applicant provided reasonable assurance that the project will comply with all applicable air quality regulations and will not cause or contribute to a violation of the state and federal Ambient Air Quality Standard for particulate matter.

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210, and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Florida Department of Environmental Protection's Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Bureau of Air Regulation's physical address is 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301 and the mailing address is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Bureau of Air Regulation's phone number is 850/488-0114 and fax number is 850/921-9533.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address and phone number listed above. A copy of the complete project file is also available at the Department's South District Office at 2295 Victoria Avenue, Suite 364, Fort Myers, Florida 33902-3381. The South District's telephone number is 239/332-6975.

Notice of Intent to Issue Air Permit: The Permitting Authority gives notice of its intent to issue an air permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of proposed equipment will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed Draft Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

Comments: The Permitting Authority will accept written comments concerning the Draft Permit for a period of thirty (30) days from the date of publication of the Public Notice. Written comments must be post-marked, and all e-mail or facsimile comments must be received by the close of business (5:00 p.m.), on or before the end of this 30-day period by the Permitting Authority at the above address, email or facsimile. As part of his or her comments, any person may also request that the Permitting Authority hold a public meeting on this permitting action. If the Permitting Authority determines there is sufficient interest for a public meeting, it will publish notice of the time, date, and location on the Department's official web site for notices at <http://lhora6.dep.state.fl.us/onw> and in a newspaper of general circulation in the area affected by the permitting action. For additional information, contact the Permitting Authority at the above address or phone number. If written comments or comments received at a public meeting result in a significant change to the Draft Permit, the Permitting Authority will issue a Revised Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by the applicant or any of the parties listed below must be filed within fourteen (14) days of receipt of this Written Notice of Intent to Issue Air Permit. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within fourteen (14) days of publication of the attached Public Notice or within fourteen (14) days of receipt of this Written Notice of Intent to Issue Air Permit, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within fourteen (14) days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, FL USA 32653
Telephone (352) 336-5600
Fax (352) 336-6603
www.golder.com



October 19, 2004

0437583

Florida Department of Environmental Regulation
Air Permitting South Program
2600 Blair Stone Road, MS 5500
Tallahassee, Florida 32399-2400

RECEIVED

OCT 22 2004

BUREAU OF AIR REGULATION

Attention: Mr. Jeff Koerner, P.E.

RE: PROJECT NO. 0510003-026-AC
REQUEST FOR ADDITIONAL INFORMATION #1
U. S. SUGAR CORPORATION – CLEWISTON SUGAR MILL AND REFINERY
NEW SUGAR DRYER NO. 2

Dear Mr. Koerner:

United States Sugar Corporation (U.S. Sugar) and Golder Associates Inc. have received the Department's request for information (RAI) dated September 27, 2004, regarding the above referenced air construction permit application. We have reviewed the RAI and developed responses to each of the Department's comments. The responses are presented below, in the same order as they appear in the RAI letter.

1. Please verify the following description and details of the new dryer.

The new sugar dryer will be a fluidized bed-type dryer/cooler manufactured by Entoleter LLC with a rated capacity of 85 tons per hour of refined sugar. After wet refined sugar is centrifuged the dryer will be used to drive off remaining moisture. The dryer suspends sugar in a fluidized bed with jets of hot, conditioned air. A maximum of 11,000 pounds per hour of low pressure steam (12 psig) from the existing mill boilers will supply heat for the process. The refined sugar is then transferred to the conditioning silos. No other new equipment is being added.

Dryer Inlet Conditions: Sugar at 1.5% moisture; inlet temperature of 120° to 140° F

Dryer Outlet Conditions: Sugar at 0.03% moisture; outlet temperature of 92° to 102° F

Response: The above description and details are correct, with the exception that the dryer/cooler manufacturer is BMA.



2. The information in the following table was taken from the application. Please verify this data.

Table 1. Cyclone/Wet Scrubber Data – PM Loading and Removal

Point	Inlet Loading		Control Efficiency	Outlet Loading	
	Lb/hour	gr/dscf		lb/hour	gr/dscf
From Centrifuges	---	---	---	11,760	14
Cyclones	11,760	14	~ 99%	118	0.14
Wet Scrubber	118	0.14	~ 96%	4.2	0.005
Overall	---	---	99.96%	---	---

Please provide any data available for the particle size distribution of the particulate matter (sugar).

Response: The above data is correct. The sugar in the dryer/cooler has the following properties: Mean aperture (MA) size = 410 microns, with a coefficient of variation (CV) = 47.6%. Theoretically, all particles up to 155 microns will be carried out of the dryer/cooler to the cyclones. The outlet dust loading from the scrubber will not exceed 0.005 grains/cubic foot for particulate greater than 1 micron.

3. What is the rated capacity of existing sugar dryer No. 1 (tons/hour of refined sugar)?

Response: 85 tons per hour.

Please detail the problems and causes of the problems associated with the baghouse on dryer No. 1. What steps have been taken to correct these problems?

Response: The main problems are as follows:

- a) The life cycle of the bags are shorter than they should be. This has resulted from high differential pressures across the baghouse, a direct result of caking and bridging of the bags due to the relative high humidity of the surroundings. To correct this, the dryer and baghouse are not washed until absolutely necessary and the air is heated prior to it entering the dryer.
- b) The air enters from one end of the dryer only. Hence, the first row of bags at this end is consistently being worn down due to the sandblasting effect of the sugar.
- c) The studs that hold the secondary venturi in place with the bags become broken and allow dust to enter the air side of the baghouse flow. Attempts to rectify this have been made by washing away sugar accumulations and welding new studs in place of the broken ones.

How many bags does the existing particulate control device have?

Response: The baghouse has the capacity for 600 bags.

What is the cost of a single bag?

Response: Approximately \$60.

What is the labor cost for the replacement of a bag?

Response: This varies based on the number of bags being replaced at any one time. If a single bag has to be replaced, the labor cost is \$102. However, on average over the past 5 years 1,224 bags have been replaced per year, with an average labor cost of about \$15,500 per year. These costs include two total bag change outs per year during planned outages, as well as the unplanned replacements when a bag fails. The labor costs per bag are much lower during the planned change outs.

When problems occur, how many bags are replaced on average?

Response: Normally one (1) to two (2) bags when a bag failure occurs. However, as described above, a complete change out of bags is performed twice a year.

What is the down time for such a bag replacement?

Response: On average, downtime is 4 hours each time the dryer/cooler must be taken out of service for one or two bag replacement.

Must the refinery operations be shut down for such replacements?

Response: Yes, the white sugar dryer has to be shutdown and liquidated, all pans (crystallizers) put on hold, and steam production cut back to minimize blowoff.

How many bags have been replaced during each of the past two years?

Response: An average of 1,224 bags per year over the last 5 years. The yearly cost of bags for this purpose has averaged \$75,000 over the last 5 years.

4. **Based on the application, U.S. Sugar is requesting the following production restrictions: No more than 2,000 tons of refined sugar per day and no more than 730,000 tons of refined sugar per consecutive 12 months shall be packaged at this facility. In addition, no more than 2,250 tons of refined sugar per day and no more than 803,000 tons of refined sugar per consecutive 12 months shall be loaded out from this facility. These restrictions will replace those in Condition 2 in Section III F of Permit No. PSD-FL-272A. Is this correct?**

Response: Yes, the above is correct.

5. **Rule 62-212.400(3)(d), F.A.C. 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 modeling requirements related to: (d) Ambient Impact Analysis, (e) Additional Impact Analysis, (f) Preconstruction Air Quality Monitoring and Analysis, and (g) Post Construction Monitoring.**

After a discussion with our staff meteorologists, Rule 62-212.400(3)(d), F.A.C. does not waive any of the modeling requirements for Ambient Air Quality Standards (AAQS) or Class I areas. Please provide a modeling analysis of impacts from the project with regards to the AAQS and the affected Class I areas.

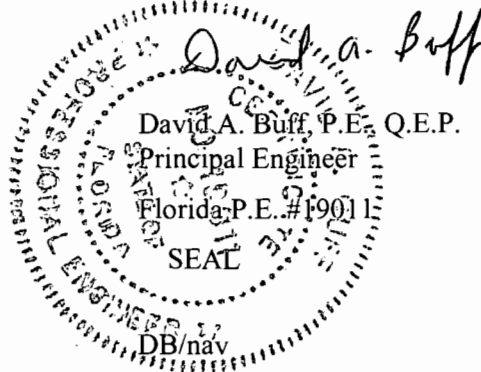
Response: The requested modeling analysis is attached.

U.S. Sugar is proposing to lower the maximum PM/PM₁₀ emission rate for the new White Sugar Dryer No. 2, to the emission rate being guaranteed by the manufacturer (4.2 lb/hr or 0.0051 gr/dscf). Appropriate portions of the application form and PSD report have been revised to reflect this change and are attached.

If you have any questions regarding this information, please call me at (352)336-5600 or email me at dbuff@golder.com.

Sincerely,

GOLDER ASSOCIATES INC.



cc: Mr. Don Griffin, USSC
Mr. Peter Briggs, USSC
Mr. Ron Blackburn, DEP South District Office
Mr. James Stormer, PBCHD

RAI102004-583

**REVISED PAGES OF
APPLICATION FOR AIR PERMIT – LONG FORM**

EMISSIONS UNIT INFORMATION

Section [1] of [1]
 Sugar Processing Operations

POLLUTANT DETAIL INFORMATION

Page [1] of [4]
 Particulate Matter Total - PM

**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: 8.77 lb/hour 38.40 tons/year	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 Tables 2-1 through 2-4 of PSD report.	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

EMISSIONS UNIT INFORMATION

Section [1] of [1]
 Sugar Processing Operations

POLLUTANT DETAIL INFORMATION

Page [1] of [4]
 Particulate Matter Total - PM

**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).	

EMISSIONS UNIT INFORMATION

Section [1] of [1]
 Sugar Processing Operations

POLLUTANT DETAIL INFORMATION

Page [1] of [4]
 Particulate Matter Total - PM

**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: 4.20 lb/hr	4. Equivalent Allowable Emissions: 4.20 lb/hour 18.38 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).	

EMISSIONS UNIT INFORMATION

Section [1] of [1]
 Sugar Processing Operations

POLLUTANT DETAIL INFORMATION

Page [1] of [4]
 Particulate Matter Total - PM

**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):	

EMISSIONS UNIT INFORMATION

Section [1] of [1]
 Sugar Processing Operations

POLLUTANT DETAIL INFORMATION

Page [2] of [4]
 Particulate Matter - PM₁₀

**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: PM₁₀	2. Total Percent Efficiency of Control:
3. Potential Emissions: 8.70 lb/hour 38.10 tons/year	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 Tables 2-1 through 2-4 of PSD report.	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

EMISSIONS UNIT INFORMATION

Section [1] of [1]
 Sugar Processing Operations

POLLUTANT DETAIL INFORMATION

Page [2] of [4]
 Particulate Matter - PM₁₀

**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).	

EMISSIONS UNIT INFORMATION

Section [1] of [1]
 Sugar Processing Operations

POLLUTANT DETAIL INFORMATION

Page [2] of [4]
 Particulate Matter - PM₁₀

**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: 4.20 lb/hr	4. Equivalent Allowable Emissions: 4.20 lb/hour 18.38 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 than 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).	

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1] of [1]
 Sugar Processing Operations

Page [2] of [4]
 Particulate Matter - PM₁₀

**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):	

REVISED TABLES OF PSD REPORT

Table 1-1. New White Sugar Dryer No. 2 PSD Source Applicability Analysis, U. S. Sugar, Clewiston (Rev.10-18-2004)

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	38.40	25.14	25	Yes
Particulate Matter (PM ₁₀)	13.08	38.10	25.02	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

PM₁₀ = Particulate Matter with aerodynamic diameter less than or equal to 10 microns

VOC = Volatile Organic Compounds

Table 2-1. Future Potential Emissions of Criteria Pollutants from the Sugar Refinery Baghouses at U.S. Sugar Corp., Clewiston
(Rev. 10-18-2004)

Source/Vent Name	EU No.	Source ID	Exhaust	Exhaust	Hours of Operation	PM/PM10 Emissions	
			Grain Loading (gr/dscf)	Gas Flow (dscfm)		(lb/hr) ^a	(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	0.0051	96,000	8,760	4.20	18.38
					TOTAL =	7.26	31.78
<u>Vacuum Systems</u>							
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
<u>Conditioning Silos</u>							
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
<u>Screening and Distribution</u>							
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
<u>Sugar Packaging Baghouse</u>							
Packing Dust Collector	022	S-4	0.0025	9,589	8,760	0.21	0.90
					GRAND TOTAL =	8.07	35.34

^a Based on permit emission limits.

Note: lb/hr = pounds per hour

TPY = tons per year

Table 2-4. Summary of Potential Future Emissions from Sugar Refinery, U. S. Sugar Corporation, Clewiston (revised 10-18-2004)

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 No. 1	016	S-10	6.28	6.28	0	0	0	0	0
New White Sugar Dryer No. 2		S-13	18.38	18.38	0	0	0	0	0
<u>Vacuum Systems</u>									
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
<u>Conditioning Silos</u>									
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
<u>Screening, Distribution, Packaging, Powdered Sugar/Starch</u>									
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
<u>Sugar Packaging Baghouse</u>									
Packing Dust Collector	022	S-4	0.90	0.90	0	0	0	0	0
<u>Granular Carbon Furnace</u>	017	S-12	3.07	2.76	2.80	13.14	13.14	4.38	0.172
<u>Alcohol Usage</u>	021		0	0	0	0	0	15.00	0
TOTAL ALL REFINERY SOURCES			38.40	38.10	2.80	13.14	13.14	19.38	0.172

Table 3-3. New White Sugar Dryer No. 2 PSD Source Applicability Analysis, U.S. Sugar Corporation, Clewiston (Rev. 10-18-2004)

Regulated Pollutant	Baseline Emissions ^a				Future Potential Emissions				Net Change In Emissions Due to Proposed Project (TPY)	PSD Significant Emission Rate (TPY)	PSD Review Triggered?
	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)			
Particulate Matter (Total)	11.45	1.82	0	13.26	35.34	3.07	0	38.40	25.14	25	Yes
Particulate Matter (PM ₁₀)	11.45	1.63	0	13.08	35.34	2.76	0	38.10	25.01	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	15.0	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.

PM₁₀ = Particulate Matter with aerodynamic diameter less than or equal to 10 microns

VOC = Volatile Organic Compounds

TPY= tons per year

RECEIVED

SEP 13 2004

BUREAU OF AIR REGULATION

**AIR PERMIT APPLICATION
TO CONSTRUCT
NEW WHITE SUGAR DRYER
U.S. SUGAR CORPORATION
CLEWISTON, FLORIDA**

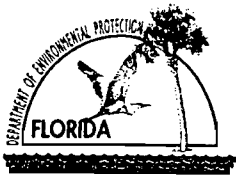
**Prepared For:
United States Sugar Corporation
111 Ponce DeLeon Ave.
Clewiston, Florida 33440**

**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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Title V Permitted Facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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

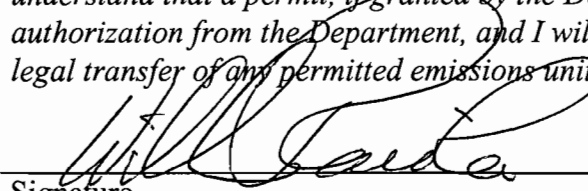
Scope of Application

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>I, the undersigned, am the owner or authorized representative*(check here [], if so) or the responsible official (check here [X], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.</i>  Signature _____ Date <u>September 9, 2004</u>

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

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

* Board of Professional Engineers Certificate of Authorization #00001670

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):			
<input type="checkbox"/> 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.			
<input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively.			
<input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.			
<input type="checkbox"/> 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>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.</i>			
_____ 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*

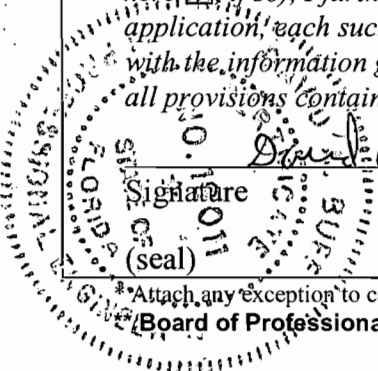
(2) *To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions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

Signature: David A. Buff Date: 9/10/04



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

APPLICATION INFORMATION

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: William A. Raiola, Vice President, Sugar Processing Operations
2. Facility Contact Mailing Address... Organization/Firm: United States Sugar Corporation Street Address: 111 Ponce DeLeon Ave. City: Clewiston State: FL Zip Code: 33440
3. Facility Contact Telephone Numbers: Telephone: (863) 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. <input type="checkbox"/> Small Business Stationary Source	<input type="checkbox"/> Unknown
2. <input type="checkbox"/> Synthetic Non-Title V Source	
3. <input checked="" type="checkbox"/> Title V Source	
4. <input checked="" type="checkbox"/> Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. <input type="checkbox"/> Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. <input checked="" type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)	
7. <input type="checkbox"/> Synthetic Minor Source of HAPs	
8. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. <input type="checkbox"/> One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. <input type="checkbox"/> 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

APPLICATION INFORMATION

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions Cap	2. Facility Wide Cap [Y or N]? (all units)	3. Emissions Unit ID 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:

APPLICATION INFORMATION

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) <input checked="" type="checkbox"/> Attached, Document ID: UC-FI-C1 <input type="checkbox"/> 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) <input checked="" type="checkbox"/> Attached, Document ID: UC-FI-C2 <input type="checkbox"/> 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) <input type="checkbox"/> Attached, Document ID:_____ <input type="checkbox"/> Previously Submitted, Date:_____

Additional Requirements for Air Construction Permit Applications

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

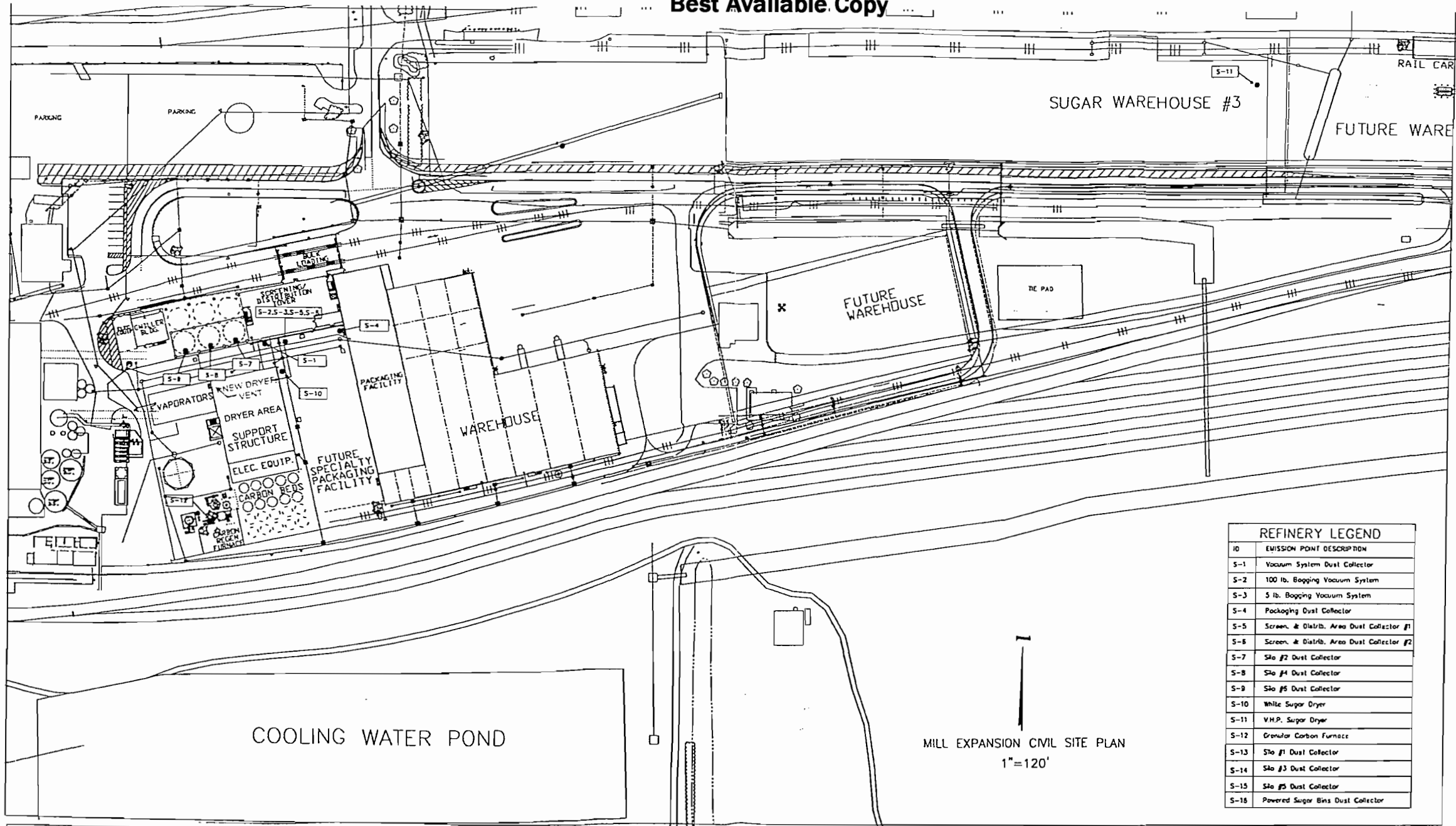
Additional Requirements for Title V Air Operation Permit Applications

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

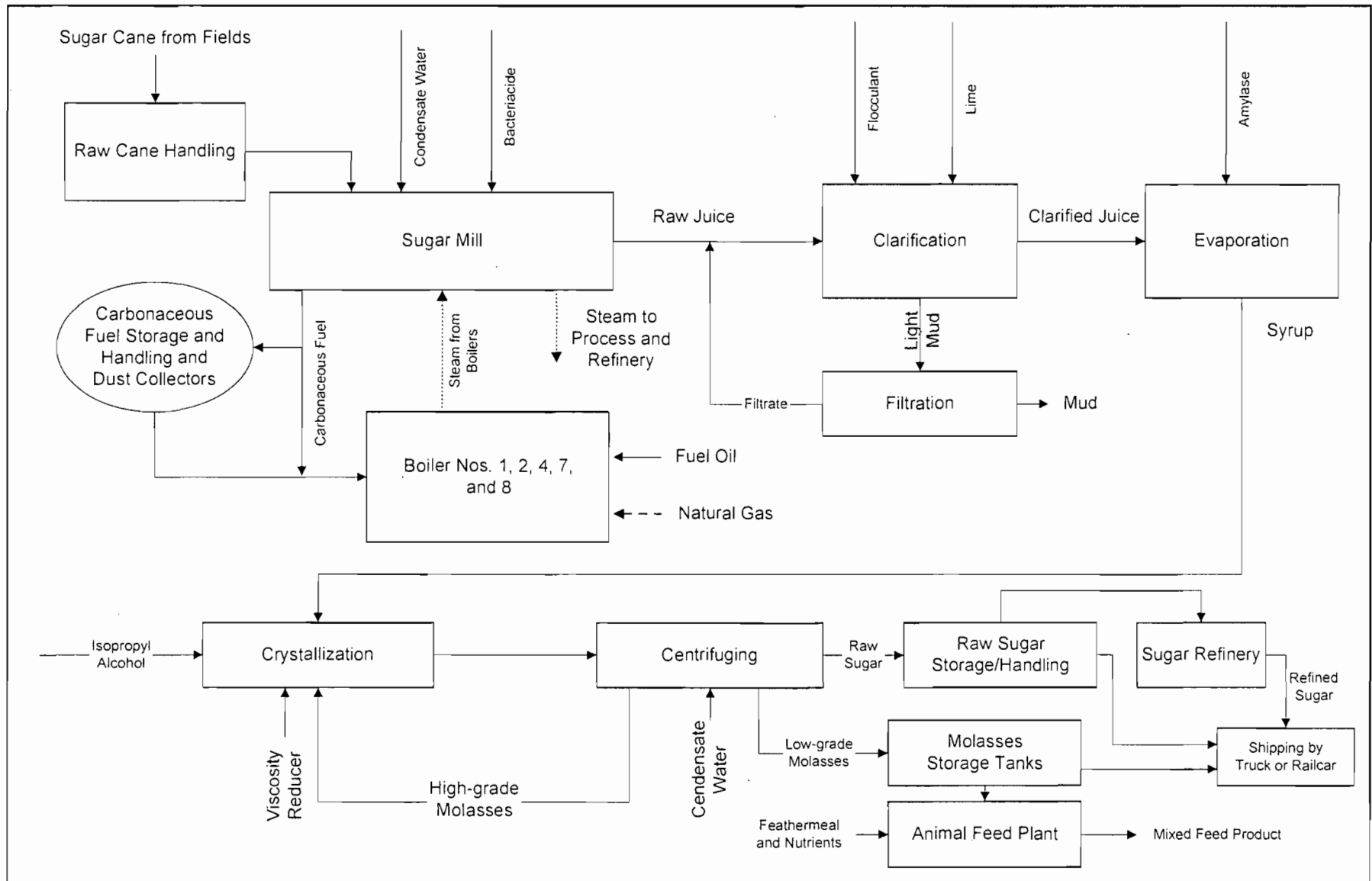
ATTACHMENT UC-FI-C1

FACILITY PLOT PLAN

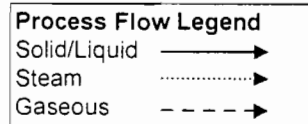


ATTACHMENT UC-F1-C2

PROCESS FLOW DIAGRAM



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



Clewiston Sugar Mill Facility

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

Date: 09/08/04



EMISSIONS UNIT INFORMATION

Section [1] of [1]
Sugar Processing Operations

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.

EMISSIONS UNIT INFORMATION

Section [1] of [1]
 Sugar Processing Operations

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: A	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code: 20	8. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 INFORMATION

Section [1] of [1]
Sugar Processing Operations

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

EMISSIONS UNIT INFORMATION

Section [1] of [1]
Sugar Processing Operations

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.		

EMISSIONS UNIT INFORMATION

Section [1] of [1]
 Sugar Processing Operations

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.			

EMISSIONS UNIT INFORMATION

Section [1] of [1]
 Sugar Processing Operations

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.		

EMISSIONS UNIT INFORMATION

Section [1] of [1]
 Sugar Processing 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:		

EMISSIONS UNIT INFORMATION

Section [1] of [1]
Sugar Processing Operations

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

EMISSIONS UNIT INFORMATION

Section [1] of [1]
 Sugar Processing Operations

POLLUTANT DETAIL INFORMATION

Page [1] of [4]
 Particulate Matter Total - PM

**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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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:	

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1] of [1]
 Sugar Processing Operations

Page [1] of [4]
 Particulate Matter Total - PM

**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).	

EMISSIONS UNIT INFORMATION

Section [1] of [1]
 Sugar Processing Operations

POLLUTANT DETAIL INFORMATION

Page [1] of [4]
 Particulate Matter Total - PM

**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 than 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).	

EMISSIONS UNIT INFORMATION

Section [1] of [1]
 Sugar Processing Operations

POLLUTANT DETAIL INFORMATION

Page [1] of [4]
 Particulate Matter Total - PM

**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: PM₁₀		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 10.5 lb/hour 46.0 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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:			

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1] of [1]
 Sugar Processing Operations

Page [2] of [4]
 Particulate Matter - PM₁₀

**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).	

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1] of [1]
 Sugar Processing Operations

Page [2] of [4]
 Particulate Matter - PM₁₀

**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 than 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).	

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1] of [1]
 Sugar Processing Operations

Page [2] of [4]
 Particulate Matter - PM₁₀

**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):	

EMISSIONS UNIT INFORMATION

Section [1] of [1]
Sugar Processing Operations

POLLUTANT DETAIL INFORMATION

Page [3] of [4]
Volatile Organic Compounds

**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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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: SO₂	2. Total Percent Efficiency of Control:
3. Potential Emissions: 0.64 lb/hour 2.80 tons/year	4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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):	

EMISSIONS UNIT INFORMATION

Section [1] of [1]
Sugar Processing Operations

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: <input type="checkbox"/> Rule <input checked="" type="checkbox"/> 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: <input type="checkbox"/> Rule <input checked="" type="checkbox"/> 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.	

EMISSIONS UNIT INFORMATION

Section [1] of [1]
Sugar Processing Operations

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:	<input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment: Temperature of afterburner on Granular Carbon Regeneration Furnace.	

Continuous Monitoring System: Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> 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) <input checked="" type="checkbox"/> Attached, Document ID: <u>UC-EU1-11</u> <input type="checkbox"/> 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) <input checked="" type="checkbox"/> Attached, Document ID: <u>UC-EU1-12</u> <input type="checkbox"/> 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) <input checked="" type="checkbox"/> Attached, Document ID: <u>UC-EU1-13</u> <input type="checkbox"/> 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) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> 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) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records <input type="checkbox"/> Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ <input checked="" type="checkbox"/> 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 <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> 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)) <input checked="" type="checkbox"/> Attached, Document ID: PSD Report <input type="checkbox"/> 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.) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

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

EMISSIONS UNIT INFORMATION

Section [1] of [1]
Sugar Processing Operations

Additional Requirements Comment

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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

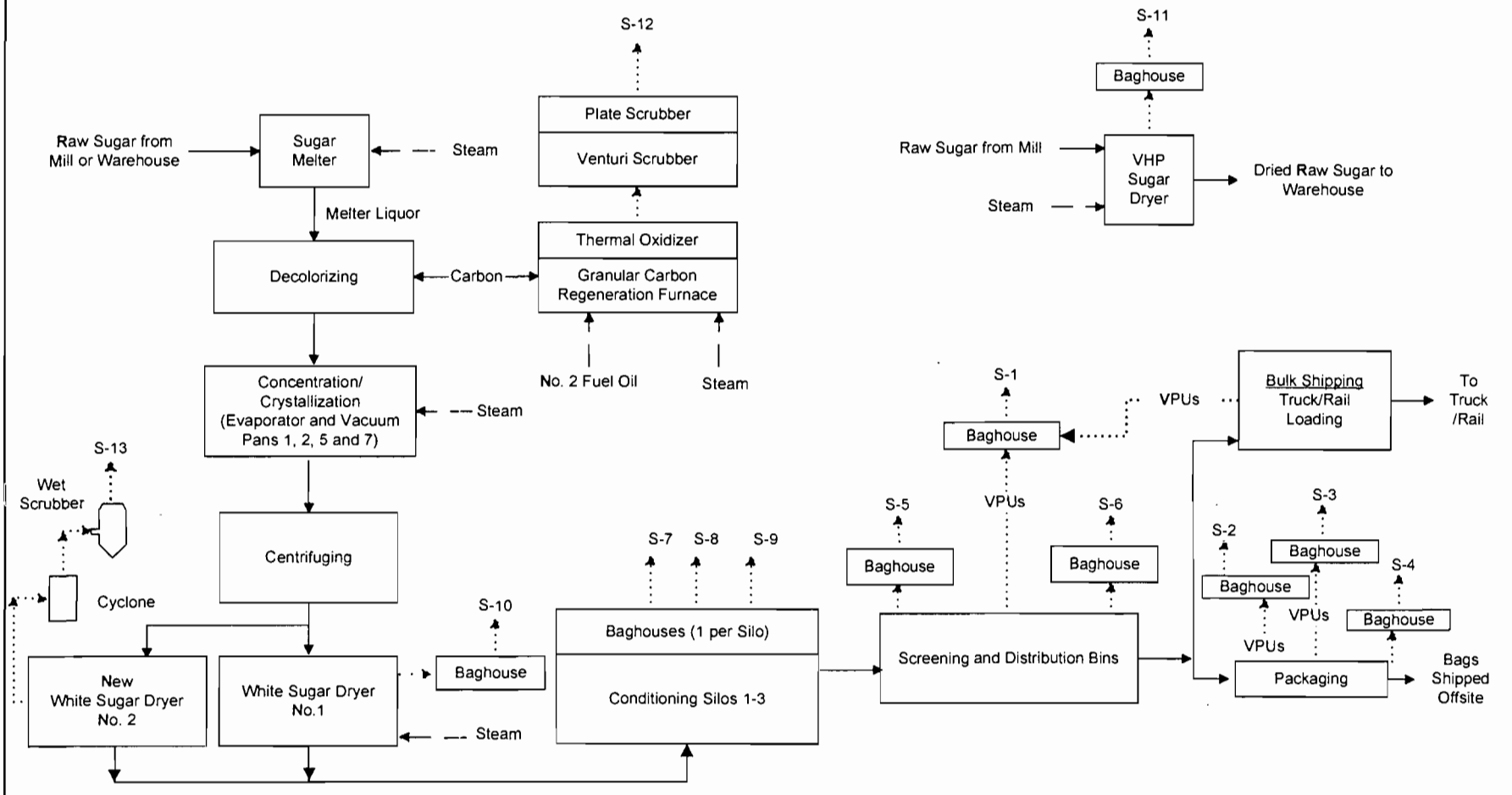
Source/Vent Name	EU ID	Stack No.	Stack/Vent Release Height (ft)	Stack/Vent Diameter (ft)	Exhaust Flow (acfm)	Exit Velocity ^a (ft/sec)	Gas Exit Temp. (°F)
Existing White Sugar Dryer	015	S-11	75	7.31	113,000	0.29	115
New White Sugar Dryer		S-13	78	7 × 6	115,000	45.6	113
VHP Sugar Dryer	016	S-10	10	4.79	127,000	0.29	115
Granular Carbon Furnace	017	S-12	30	2.00	4,300	22.8	160
<u>Vacuum Systems</u>							
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
<u>Conditioning Silos</u>							
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
<u>Screening, Distributing, Packaging, Powdered Sugar/Starch</u>							
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
<u>Sugar Packaging Baghouse</u>							
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-II

PROCESS FLOW DIAGRAM

PRIVILEGED AND CONFIDENTIAL - PREPARED FOR COUNSEL



Notes:
 VPU = 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-EU1-11
 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-EU1-11.VSD
 Date: 9/10/04



ATTACHMENT UC-EU1-12

FUEL ANALYSIS SPECIFICATION

ATTACHMENT UC-EU1-12

**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
<u>Ultimate Analysis (dry basis):</u>	
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 Petroleum LLC; Coastal Fuels.

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

ATTACHMENT UC-EU1-13

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 ₂ O)	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 ₂ O)	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

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 INTRODUCTION AND EXECUTIVE SUMMARY.....	1-1
1.1 PREVENTION OF SIGNIFICANT DETERIORATION (PSD) REQUIREMENTS.....	1-1
1.2 BEST AVAILABLE CONTROL TECHNOLOGY (BACT) ANALYSIS.....	1-2
1.3 SUMMARY OF ANALYSIS.....	1-2
1.4 AIR PERMIT APPLICATION ORGANIZATION.....	1-3
2.0 PROJECT DESCRIPTION.....	2-1
2.1 SITE DESCRIPTION.....	2-1
2.2 SUGAR REFINERY.....	2-1
2.2.1 SUGAR PROCESSING.....	2-2
2.2.2 DRYING, CONDITIONING, AND SIZING OPERATIONS.....	2-3
2.2.3 DISTRIBUTION SYSTEM OPERATIONS.....	2-4
2.2.4 SUGAR SPILL CLEANUP OPERATIONS.....	2-4
2.2.5 MILL SUPPORT OPERATIONS.....	2-5
2.2.6 EXISTING SUGAR REFINERY CONTROL EQUIPMENT.....	2-5
2.2.7 NEW WHITE SUGAR DRYER CONTROL EQUIPMENT.....	2-6
2.3 PROPOSED NEW WHITE SUGAR DRYER AND REFINERY EMISSIONS.....	2-6
2.4 SITE LAYOUT AND STRUCTURES.....	2-7
2.5 STACK PARAMETERS.....	2-7
3.0 AIR QUALITY REVIEW REQUIREMENTS AND APPLICABILITY.....	3-1
3.1 NATIONAL AND STATE AAQS.....	3-1
3.2 PREVENTION OF SIGNIFICANT DETERIORATION (PSD) REQUIREMENTS.....	3-1
3.2.1 GENERAL REQUIREMENTS.....	3-1
3.2.2 CONTROL TECHNOLOGY REVIEW.....	3-3
3.2.3 SOURCE IMPACT ANALYSIS.....	3-5
3.2.4 AIR QUALITY MONITORING REQUIREMENTS.....	3-8
3.2.5 SOURCE INFORMATION/GOOD ENGINEERING PRACTICE STACK HEIGHT.....	3-8
3.2.6 ADDITIONAL IMPACT ANALYSIS.....	3-9
3.2.7 LIMITED PSD REVIEW.....	3-9
3.3 NONATTAINMENT RULES.....	3-10
3.4 EMISSION STANDARDS.....	3-10
3.4.1 NEW SOURCE PERFORMANCE STANDARDS.....	3-10
3.4.2 FLORIDA RULES.....	3-10

TABLE OF CONTENTS

3.5	PSD APPLICABILITY.....	3-10
3.5.1	AREA CLASSIFICATION	3-10
3.5.2	PSD REVIEW.....	3-11
3.5.3	NONATTAINMENT REVIEW	3-12
4.0	BEST AVAILABLE CONTROL TECHNOLOGY ANALYSIS	4-1
4.1	REQUIREMENTS.....	4-1
4.2	PARTICULATE MATTER (PM/PM ₁₀).....	4-1
4.2.1	PROPOSED CONTROL TECHNOLOGY.....	4-1
4.2.2	BACT ANALYSIS.....	4-2
4.2.3	BACT SELECTION.....	4-7
5.0	REFERENCES	5-1

LIST OF APPENDICES

APPENDIX A	CONTROL EQUIPMENT INFORMATION FOR PROPOSED WHITE SUGAR DRYER NO. 2
APPENDIX B	BASIS OF PAST ACTUAL EMISSIONS FOR SUGAR REFINERY

TABLE OF CONTENTS

LIST OF TABLES

Table 1-1	New White Sugar Dryer No. 2 PSD Source Applicability Analysis, U.S. Sugar, Clewiston
Table 2-1	Future Potential Emissions of Criteria Pollutants from the Sugar Refinery Baghouses at U.S. Sugar Corporation, Clewiston
Table 2-2	Future Potential Emissions of Criteria Pollutants from the Granular Carbon Furnace (EU 017) at U.S. Sugar Corporation, Clewiston
Table 2-3	Future Potential Emissions of Criteria Pollutants from Alcohol Usage in the Sugar Refinery (EU 021) at U.S. Sugar Corporation, Clewiston
Table 2-4	Summary of Potential Future Emissions from Sugar Refinery, U.S. Sugar Corporation, Clewiston
Table 3-1	National and State AAQS, Allowable PSD Increments, and Significant Impact Levels
Table 3-2	PSD Significant Emission Rates and <i>De Minimis</i> Monitoring Concentrations
Table 3-3	New White Sugar Dryer No. 2 PSD Source Applicability Analysis, U.S. Sugar Corporation, Clewiston
Table 4-1	BACT Determinations for PM/PM ₁₀ for Other Food and Agricultural Products Sources—Dryers and Coolers
Table 4-2	PM/PM ₁₀ Control Technology Feasibility Analysis for New White Sugar Dryer No. 2
Table 4-3	Cost Effectiveness of Venturi Scrubber for PM Control on the White Sugar Dryer
Table 4-4	Cost Effectiveness of Baghouse Filter for PM Control on the White Sugar Dryer

LIST OF FIGURES

Figure 2-1	Location of New White Sugar Dryer, U.S. Sugar Clewiston Mill
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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 (PM₁₀).

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 PM₁₀, SO₂, and NO₂; 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/PM₁₀ emissions. The proposed BACT to control PM/PM₁₀ emissions from the new white sugar dryer is high efficiency cyclones followed by a wet scrubber, which limits PM/PM₁₀ 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 the 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

PM₁₀ = 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-II, 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 dryer/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 PM₁₀. 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-II. 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, PM₁₀, volatile organic compounds (VOCs), nitrogen oxides (NO_x), carbon monoxide (CO), and sulfur dioxide (SO₂). 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-II 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/PM₁₀ 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/PM₁₀ 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/PM₁₀ 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	Exhaust	Hours of Operation	PM/PM10 Emissions	
			Grain Loading (gr/dscf)	Gas Flow (dscfm)		(lb/hr) ^a	(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
<u>Vacuum Systems</u>							
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
<u>Conditioning Silos</u>							
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
<u>Screening and Distribution</u>							
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
<u>Sugar Packaging Baghouse</u>							
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.

^b 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 SO₂/lb sulfur = 0.64 lb/hr.

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

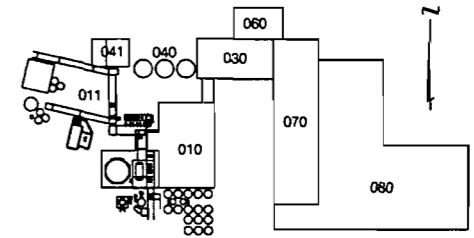
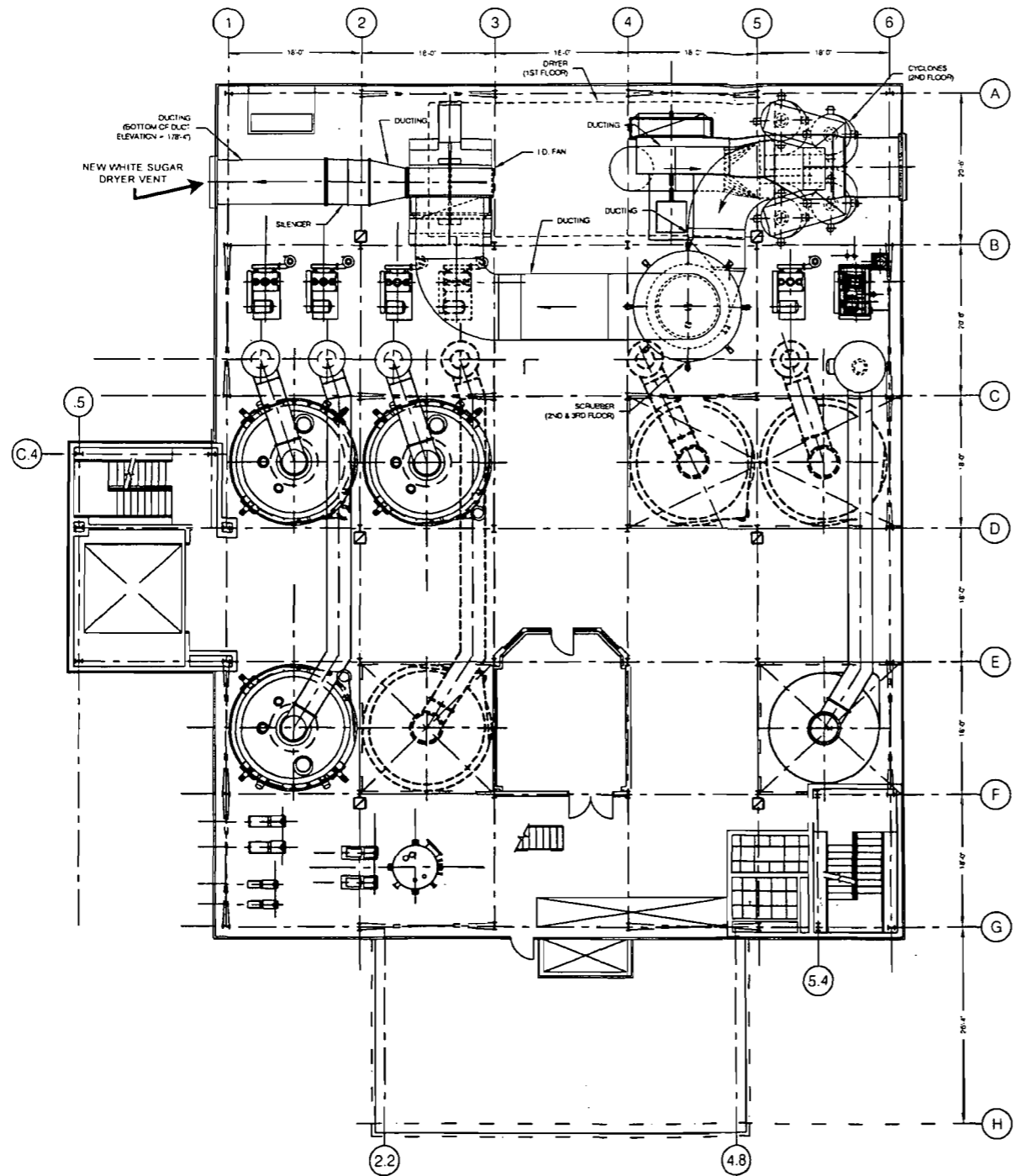
Table 2-3. Future Potential Emissions of Criteria Pollutants from Alcohol Usage in the Sugar Refinery (EU 021)
at U. S. Sugar Corporation, Clewiston

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
<u>Vacuum Systems</u>									
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
<u>Conditioning Silos</u>									
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
<u>Screening, Distribution, Packaging, Powdered Sugar/Starch</u>									
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
<u>Sugar Packaging Baghouse</u>									
Packing Dust Collector	022	S-4	0.90	0.90	0	0	0	0	0
<u>Granular Carbon Furnace</u>	017	S-12	3.07	2.76	2.80	13.14	13.14	4.38	0.172
<u>Alcohol Usage</u>	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



KEY PLAN

UNITED STATES SUGAR CORPORATION
 REFINERY - CLEWISTON
 SUGAR HOUSE ENGINEER DEPARTMENT
 SCRUBBER GENERAL ARRANGEMENT
 REFINERY PROCESS BUILDING

Figure 2-1

PLAN - REFINERY PROCESS BUILDING

LEGEND

NEW _____
 EXIST _____

VE VALLEY ENGINEERING, INC.
 200 East Main Street, Suite 200
 Fort Worth, Texas 76102
 (817) 337-2222, Fax: (817) 337-2222
 www.valley-engineering.com

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

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 SO₂. For SO₂, Florida has adopted the former 24-hour secondary standard of 260 µg/m³, and former annual average secondary standard of 60 micrograms per cubic meter (µg/m³).

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 SO₂, PM₁₀, and NO₂ 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 SO₂, PM₁₀, and NO₂ 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 in 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 effect 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:

- SO₂ 3-hour - 1 µg/m³
 24-hour - 0.2 µg/m³
 Annual - 0.1 µg/m³
- PM₁₀ 24- hour - 0.3 µg/m³
 Annual - 0.2 µg/m³
- NO₂ Annual - 0.1 µg/m³

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 SO₂ and PM₁₀ concentrations, or February 8, 1988, for NO₂ 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 SO₂ and PM₁₀ concentrations, and after February 8, 1988, for NO₂ 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 SO₂ and PM₁₀, and February 8, 1988, in the case of NO₂;
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 SO₂ and PM₁₀, and February 8, 1988, for NO₂.

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:

$$H_g = H + 1.5L$$

where: H_g = 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 from 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 SO₂, PM(TSP), and NO₂. 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 PM₁₀. As a result, PSD review applies for these pollutants.

As described in Section 3.2.7, the PSD rules provide an exemption from 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 ($\mu\text{g}/\text{m}^3$)

Pollutant	Averaging Time		AAQS			PSD Increments		Class II Significant Impact Levels ^d
			National Primary Standard	National Secondary Standard	State of Florida	Class I	Class II	
Particulate Matter ^a (PM ₁₀)	Annual Mean	Arithmetic	50	50	50	4	17	1
	24-Hour Maximum ^b		150 ^b	150 ^b	150 ^b	8	30	5
Sulfur Dioxide	Annual Mean	Arithmetic	80	NA	60	2	20	1
	24-Hour Maximum ^c		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 Mean	Arithmetic	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.

PM₁₀ = 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 $\mu\text{g}/\text{m}^3$ (3-year average of 98th percentile) and an annual standard of 15 $\mu\text{g}/\text{m}^3$ (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 PM₁₀ AAQS (these do not apply to significant impact levels). The PM₁₀ 24-hour AAQS is attained when the expected number of days per year with a 24-hour concentration above 150 $\mu\text{g}/\text{m}^3$ 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 ($\mu\text{g}/\text{m}^3$)
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.

$\mu\text{g}/\text{m}^3$ = 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

Regulated Pollutant	Baseline Emissions ^a				Future Potential Emissions				Net Change In Emissions Due to Proposed Project (TPY)	PSD Significant Emission Rate (TPY)	PSD Review Triggered?
	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)			
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.

PM₁₀ = 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/PM₁₀ 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/PM₁₀)

4.2.1 PROPOSED CONTROL TECHNOLOGY

Emissions of PM/PM₁₀ 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/PM₁₀ is based on the following control techniques:

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

The proposed maximum PM/PM₁₀ emissions for the White Sugar Dryer No. 2 are 0.00729 gr/dscf. This equates to maximum PM/PM₁₀ 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/PM₁₀ 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/PM₁₀ controls for the proposed White Sugar Dryer are listed in Table 4-2. As shown, there are five types of PM/PM₁₀ 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 from 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/PM₁₀ 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/PM₁₀ 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/PM₁₀ 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/PM₁₀, 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/PM₁₀ 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/PM₁₀ 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/PM₁₀ 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/PM₁₀ removed, calculated as follows:

$$\$240,000/\text{yr} \div (26.3-6.6) \text{ TPY} = \$12,183 \text{ per ton}$$

The use of the baghouse for PM/PM₁₀ 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/PM₁₀ 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 U.S. Sugar's proposed limit of 0.00729 gr/dscf. The use of a baghouse for PM/PM₁₀ 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/PM₁₀ 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/PM₁₀ emissions.

Table 4-1. BACT Determinations for PM/PM₁₀ for Other Food and Agricultural Products Sources--Dryers and Coolers

Company	State	RBLC ID	Permit Date	Source	Throughput	Emission Limits		Removal Efficiency %
						As Provided in LAER/BACT Clearinghouse	Control Equipment Description	
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/PM₁₀ Control Technology 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 recycled 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 EMISSIONS (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 EMISSIONS (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



251 Wilson Street
Hartford, Connecticut 06117 U.S.A.
(800) 729-3575
(203) 787-3575
Fax (203) 787-1492
www.entoleter.com

GAS OUT
96,000 SCFM
113°F
0.005 g/cf

GAS IN
104,950 ACFM
113°F

14 g/cf

13.06 g/cf

RECIRCULATION FEED
500 GPM

MAKEUP
12 GPM

BLOWDOWN
12 GPM

RECIRCULATION PUMP

CYCLONES

SCRUBBER

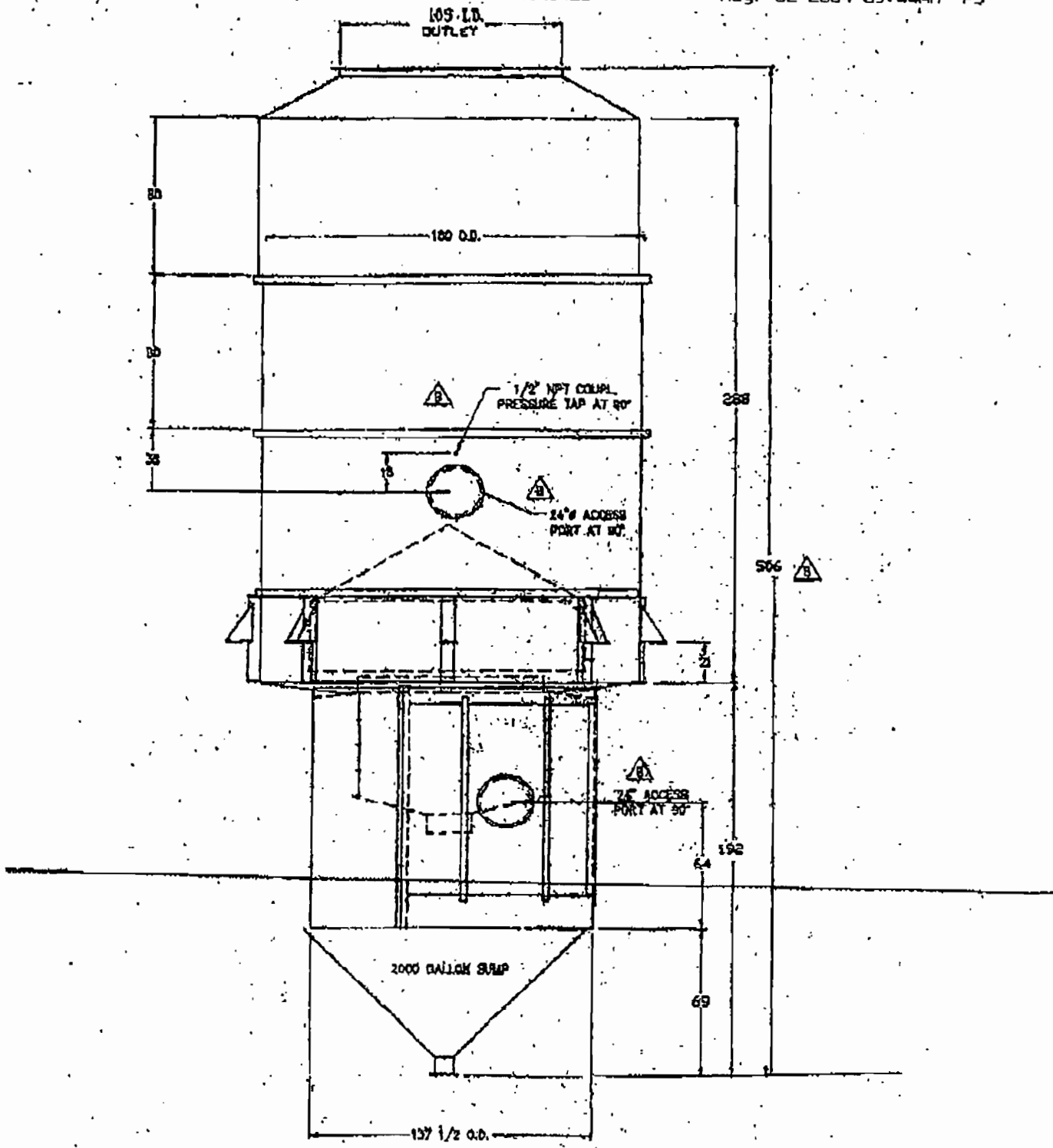
US SUGAR EXPANSION

#4-1002B

FROM : ENTOLETER

FAX NO. : 3034849422

Aug. 02 2004 09:44AM P5



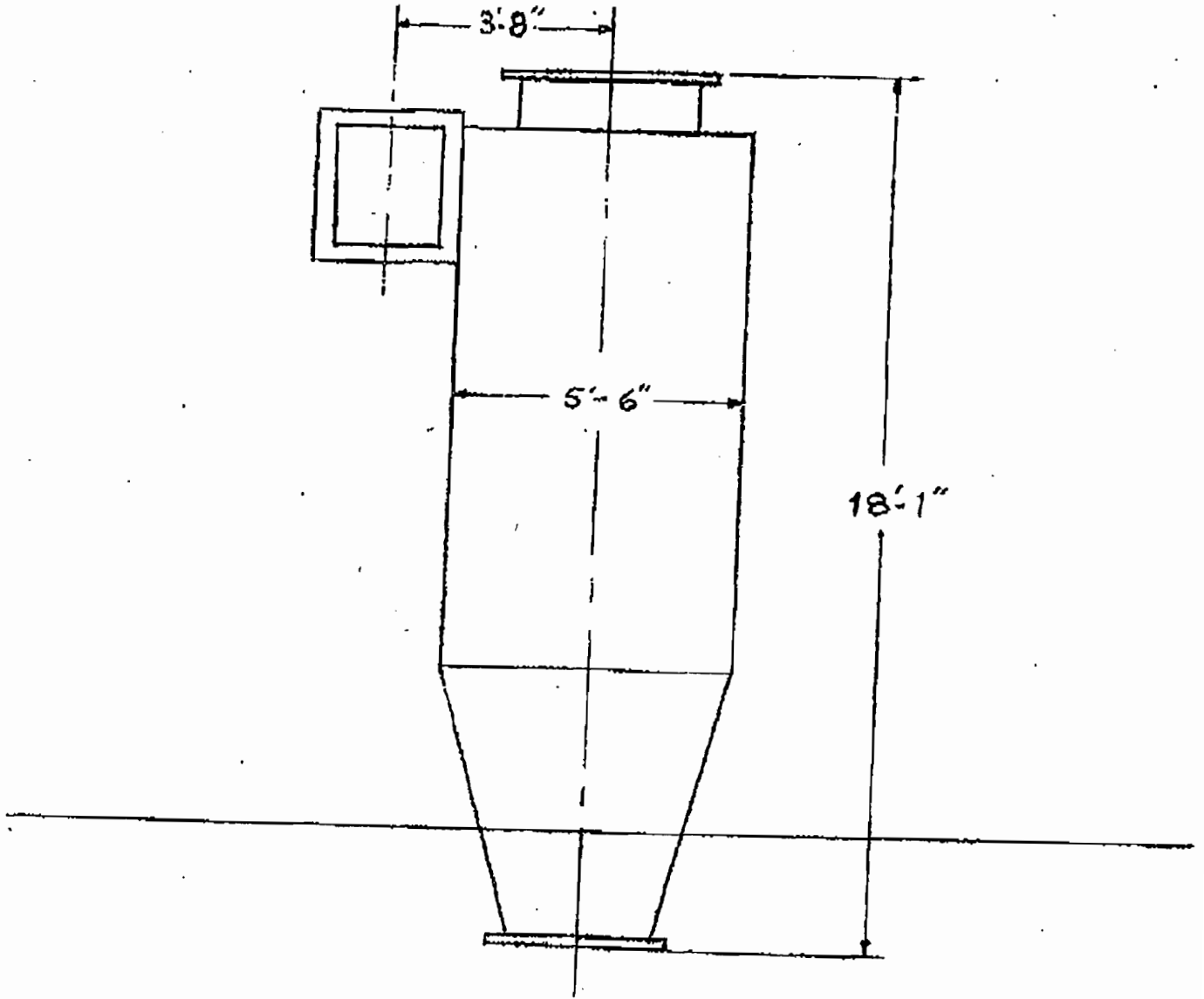
MODEL 1500

ENTOLETER LLC
251 Walton Street
Hamden CT 06517
USA

FROM : ENTOLETER

FAX NO. : 3034849422

Aug. 02 2004 09:45AM P6



CYCLONE
MODEL 6600
 QUANTITY-4
 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	(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
<u>Vacuum Systems</u>					
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
<u>Conditioning Silos</u>					
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
<u>Screening and Distribution</u>					
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
<u>Sugar Packaging Baghouse</u>					
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	(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
<u>Vacuum Systems</u>					
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
<u>Conditioning Silos</u>					
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
<u>Screening and Distribution</u>					
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
<u>Sugar Packaging Baghouse</u>					
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 ^e	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 PM₁₀.

^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 SO₂/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, Cleviston

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 ^e	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 PM₁₀.

^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 SO₂/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, Cleviston

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
<u>Vacuum Systems</u>									
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
<u>Conditioning Silos</u>									
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
<u>Screening and Distribution</u>									
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
<u>Sugar Packaging Baghouse</u>									
Packing Dust Collector	022	S-4	0.80	0.80	0	0	0	0	0
<u>Granular Carbon Furnace</u>									
	017	S-12	1.82	1.63	1.05	10.13	10.13	1.24	0.064
<u>Alcohol Usage</u>									
	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 SO₂ is SO₃, then convert to H₂SO₄ (x 98/80).



Jeb Bush
Governor

Department of Environmental Protection

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,

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

AAL/pa

Enclosure

cc: J. Koerner

"More Protection, Less Process"

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Jeb Bush
Governor

Department of Environmental Protection

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,

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

AAL/pa

Enclosure

cc: J. Koerner

"More Protection, Less Process"

Printed on recycled paper.

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/PM₁₀ 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.

A handwritten signature in black ink that reads 'David A. Buff'.

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\LO91004.doc

RECEIVED

SEP 13 2004

BUREAU OF AIR REGULATION