

Adams, Patty

From: Harvey, Mary
Sent: Wednesday, November 08, 2006 9:56 AM
To: Adams, Patty
Subject: FW: United States Sugar Corporation Permit #0510003-038-AC-DRAFT

From: Peter Briggs [mailto:pbriggs@ussugar.com]
Sent: Wednesday, November 08, 2006 9:55 AM
To: Harvey, Mary
Subject: RE: United States Sugar Corporation Permit #0510003-038-AC-DRAFT

From: Harvey, Mary [mailto:Mary.Harvey@dep.state.fl.us]
Sent: Tuesday, November 07, 2006 2:52 PM
To: Neil Smith; Peter Briggs; Don Griffin; dave_buff@golder.com; Blackburn, Ron; WORLEY.GREGG@EPAMAIL.EPA.GOV
Cc: Koerner, Jeff; Adams, Patty; Gibson, Victoria
Subject: United States Sugar Corporation Permit #0510003-038-AC-DRAFT

Dear Sir/Madam:

Please send a "reply" message verifying receipt of the attached document(s); this may be done by selecting "Reply" on the menu bar of your e-mail software and then selecting "Send". We must receive verification of receipt and your reply will preclude subsequent e-mail transmissions to verify receipt of the document(s).

The document(s) may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible.

The document is in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site: <http://www.adobe.com/products/acrobat/readstep.html>.

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record.

Thank you,

DEP, Bureau of Air Regulation

Adams, Patty

From: Harvey, Mary
Sent: Wednesday, November 08, 2006 8:45 AM
To: Adams, Patty
Subject: FW: RE: United States Sugar Corporation Permit #0510003-038-AC-DRAFT

From: Lisa Pickron [<mailto:lpickron@ussugar.com>]
Sent: Wednesday, November 08, 2006 7:22 AM
To: Harvey, Mary
Subject: Read: RE: United States Sugar Corporation Permit #0510003-038-AC-DRAFT

Your message

To: lpickron@ussugar.com
Subject:

was read on 11/8/2006 7:22 AM.

Adams, Patty

From: Harvey, Mary
Sent: Wednesday, November 08, 2006 8:44 AM
To: Adams, Patty
Subject: FW: United States Sugar Corporation Permit #0510003-038-AC-DRAFT

From: Don Griffin [mailto:dgriffin@ussugar.com]
Sent: Wednesday, November 08, 2006 7:42 AM
To: Harvey, Mary
Subject: RE: United States Sugar Corporation Permit #0510003-038-AC-DRAFT

received

From: Harvey, Mary [mailto:Mary.Harvey@dep.state.fl.us]
Sent: Tuesday, November 07, 2006 4:32 PM
To: Harvey, Mary; Neil Smith; Peter Briggs; Don Griffin
Cc: Koerner, Jeff; Adams, Patty
Subject: RE: United States Sugar Corporation Permit #0510003-038-AC-DRAFT

From: Harvey, Mary
Sent: Tuesday, November 07, 2006 2:52 PM
To: 'NSMITH@USSUGAR.COM'; 'PBRIGGS@USSUGAR.COM'; 'DGRIFIN@USSUGAR.COM'
Cc: Koerner, Jeff; Adams, Patty; Gibson, Victoria
Subject: United States Sugar Corporation Permit #0510003-038-AC-DRAFT

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DEP, Bureau of Air Regulation

11/8/2006

Adams, Patty

From: Harvey, Mary
Sent: Tuesday, November 07, 2006 4:08 PM
To: Adams, Patty
Subject: FW: United States Sugar Corporation Permit #0510003-038-AC-DRAFT

From: Buff, Dave [<mailto:DBuff@GOLDER.com>]
Sent: Tuesday, November 07, 2006 3:32 PM
Subject: Read: United States Sugar Corporation Permit #0510003-038-AC-DRAFT

Your message

To: DBuff@GOLDER.com
Subject:

was read on 11/7/2006 3:32 PM.

Adams, Patty

From: Harvey, Mary
Sent: Tuesday, November 07, 2006 4:07 PM
To: Adams, Patty
Subject: FW: United States Sugar Corporation Permit #0510003-038-AC-DRAFT

From: Blackburn, Ron
Sent: Tuesday, November 07, 2006 4:06 PM
To: Harvey, Mary
Subject: Read: United States Sugar Corporation Permit #0510003-038-AC-DRAFT

Your message

To: 'NSMITH@USSUGAR.COM'; 'PBRIGGS@USSUGAR.COM'; 'DGRIFFIN@USSUGAR.COM'; 'dave_buff@golder.com'; Blackburn, Ron; 'WORLEY.GREGG@EPAMAIL.EPA.GOV'
Cc: Koerner, Jeff; Adams, Patty; Gibson, Victoria
Subject: United States Sugar Corporation Permit #0510003-038-AC-DRAFT
Sent: 11/7/2006 2:52 PM

was read on 11/7/2006 4:06 PM.

Adams, Patty

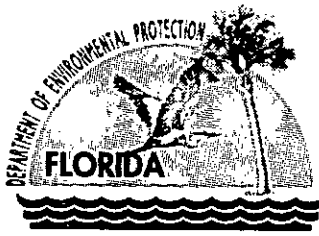
From: Harvey, Mary
Sent: Tuesday, November 07, 2006 4:07 PM
To: Adams, Patty
Subject: FW: United States Sugar Corporation Permit #0510003-038-AC-DRAFT

From: Blackburn, Ron
Sent: Tuesday, November 07, 2006 4:06 PM
To: Harvey, Mary
Subject: Read: United States Sugar Corporation Permit #0510003-038-AC-DRAFT

Your message

To: 'NSMITH@USSUGAR.COM'; 'PBRIGGS@USSUGAR.COM'; 'DGRIFFIN@USSUGAR.COM'; 'dave_buff@golder.com'; Blackburn, Ron; 'WORLEY.GREGG@EPAMAIL.EPA.GOV'
Cc: Koerner, Jeff; Adams, Patty; Gibson, Victoria
Subject: United States Sugar Corporation Permit #0510003-038-AC-DRAFT
Sent: 11/7/2006 2:52 PM

was read on 11/7/2006 4:06 PM.



Jeb Bush
Governor

Department of Environmental Protection

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

Colleen M. Castille
Secretary

November 7, 2006

(Sent by Electronic Mail – Return Receipt Requested)

Mr. Neil Smith, 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-346A
Project No. 0510003-038-AC
U.S. Sugar Corporation, Clewiston Sugar Mill and Refinery
New White Sugar Dryer No. 2 – Revised PM/PM₁₀ Standards

Dear Mr. Smith:

On July 3, 2006, U.S. Sugar submitted an application to revise the PM/PM₁₀ emissions standards for the new 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. We received additional information on September 21st regarding improvements and test results. The Department intends to revise the permit as indicated in the enclosed 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

TV/jfk

Enclosures

"More Protection, Less Process"

Printed on recycled paper.

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

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

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

Draft Air Permit No. PSD-FL-346A
Project No. 0510003-038-AC
New White Sugar Dryer No. 2
Revised PM/PM₁₀ Standards
Hendry County, Florida

Authorized Representative:

Mr. Neil Smith, V.P. of Sugar Processing Operations

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 revised standards for particulate matter (PM) and particulate matter less than 10 microns in diameter (PM₁₀) for the new white sugar dryer based on the control system as installed and the corrective measures taken to date. 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 that the Permitting Authority hold a public meeting on this permitting action. If the Permitting Authority determines there is

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

sufficient interest for a public meeting, it will publish notice of the time, date, and location in the Florida Administrative Weekly 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

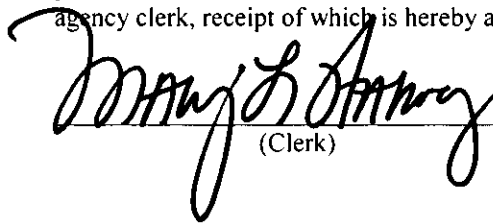
CERTIFICATE OF SERVICE

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 electronic mail with a return receipt requested before the close of business on 11/7/06 to the persons listed below.

- Mr. Neil Smith, U.S. Sugar (nsmith@ussugar.com)
- Mr. Peter Briggs, U.S. Sugar (pbriggs@ussugar.com)
- Mr. Don Griffin, U.S. Sugar (dgriffin@ussugar.com)
- Mr. David Buff, Golder Associates (dave_buff@golder.com)
- Mr. Ron Blackburn, SD Office (blackburn_r@dep.state.fl.us)
- Mr. Gregg Worley, EPA Region 4 (worley.gregg@epamail.epa.gov)

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)

11/7/06

(Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

Florida Department of Environmental Protection
Project No. 0510003-038-AC / Draft Air Permit No. PSD-FL-346A
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. Neil Smith, 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 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. In accordance with a PSD preconstruction review permit, the applicant installed a new white sugar dryer designed to remove moisture from refined sugar prior to storage in a conditioning silo. No fuel is combusted. Low-pressure steam supplies the heat necessary for drying. Sugar particles in the exhaust stream are removed with a set of four cyclone collectors followed by a wet atomizing venturi-type scrubber. Sugar captured by the cyclones is transferred to storage. Sugar captured by the scrubber water is recycled back to the refining process. The original project was subject to PSD preconstruction review and a determination of the Best Available Control Technology (BACT) for particulate matter (PM) and particulate matter less than 10 microns in diameter (PM₁₀).

After completing construction, emissions tests showed low PM₁₀ emissions, but unexpectedly higher total PM emissions. Investigations indicate that large water droplets containing dissolved sugar are being re-entrained in the exhaust gas stream. Observations and estimation techniques indicate that the entrained droplets quickly settle to the ground and substantially remain on plant property. Subsequent equipment modifications have improved performance and reduced PM emissions by approximately half, but total PM emissions remain higher than expected due to the droplets.

The Department intends to revise the air permit as follows: retain the current standard of "4.2 lb/hour" as the PM₁₀ standard with compliance demonstrated by EPA Method 201A; add a new PM standard of "15 lb/hour" with compliance demonstrated by EPA Method 5; install a drain in the silencer ductwork to prevent re-entraining water droplets; reduce the maximum sugar concentration of the recycled scrubber water; conduct new compliance tests; and submit a report to summarizing the costs of possible additional improvements to reduce emissions. The regulations only require an air quality modeling for PM₁₀ emissions. Because there has been no change in PM₁₀ emissions, the applicant's original analysis 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 PM₁₀.

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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(Public Notice to be Published in the Newspaper)

PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

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Mediation: Mediation is not available in this proceeding.

(Public Notice to be Published in the Newspaper)

**TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION**

PROJECT

Project No. 0510003-038-AC
Air Permit No. PSD-FL-346A
Clewiston Sugar Mill and Refinery
ARMS Facility ID No. 0510003
New White Sugar Dryer No. 2 (EU-029)
Revision of PM/PM₁₀ Standards

COUNTY

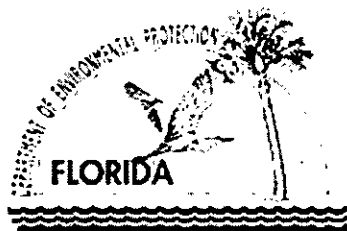
Hendry County, Florida

APPLICANT

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

PERMITTING AUTHORITY

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



November 6, 2006

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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. 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 Request

In accordance with Permit No. PSD-FL-346, U.S. Sugar installed cyclone dust collectors in combination with an Entoleter Centrifield wet atomizing venturi scrubber to control particulate matter emissions from a new fluidized bed sugar dryer. After completing construction, U.S. Sugar encountered a variety of problems with the installed particulate matter control system. Although PM_{10} emissions were low, PM emissions were much higher than expected. Based on investigations, recommendations by technical experts, corrective actions, and additional testing, U.S. Sugar requests the following revised standards as BACT for particulate matter emissions:

- Opacity $\leq 10\%$ based on a 6-minute average, as determined by EPA Method 9 (unchanged)
- $PM_{10} \leq 0.005$ grains per dscf and 4.2 lb/hour, as determined by EPA Method 201A (revised to include only PM_{10} emissions)
- $PM \leq 15$ lb/hour, as determined by EPA Method 5 (added to include particles greater than PM_{10})

U.S. Sugar believes that all reasonable and cost effective corrective actions have been taken to mitigate particulate matter emissions.

2. DEPARTMENT REVIEW

Original Project

In February of 2005, the Department issued Permit No. PSD-FL-346 to construct a new fluidized bed white sugar dryer to remove moisture from refined sugar prior to storage in a conditioning silo. No fuel is combusted. Low-pressure steam supplies the necessary heat. Due to the large volume of sugar being processed and the fluidized bed system, a significant portion of sugar particles will carryover into the dryer exhaust. Sugar particles in the exhaust stream are removed with a set of four cyclone collectors followed by a wet atomizing venture-type scrubber. Sugar captured by the cyclones is transferred to storage. Sugar captured by the scrubber water is recycled back to the refining process. The project resulted in only a small increase in the maximum daily sugar production (from 2200 to 2250 tons per day) due to other restrictions in the refining process such as the granular carbon regenerative furnace.

The original project was subject to PSD preconstruction review for PM/PM_{10} emissions. Based on an overall control efficiency of 99.96%, the following standards were determined to represent the Best Available Control Technology (BACT) for the project.

$PM \leq 0.005$ grains per dscf and 4.2 lb/hour, as determined by EPA Method 5

Opacity $\leq 10\%$ based on a 6-minute average, as determined by EPA Method 9

The standards could be achieved by either a fabric filter collector or a wet scrubbing system. In making this determination, the Department considered the following: overall control efficiency, the nature of the particulate

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

matter emitted (sugar), the application of the control equipment (sugar dryer), and the fact that there is an economic incentive to recover and recycle the sugar.

U.S. Sugar's existing sugar dryer controlled by a fabric filter showed excessive wear on the front rows of bags due to the abrasive particles as well as caking and bridging of the bags due to moisture. These issues lead to frequent down times and high operating costs. As a result, U.S. Sugar elected to install a set of four high-efficiency Entoleter cyclone collectors followed by an Entoleter Centrifield Vortex wet scrubber. A process flow diagram of the installed equipment is provided at the end of this report.

Initial Construction and Testing

During installation of this system, it was discovered that the actual air flow through the dryer would be approximately 92,000 acfm and not the original design flow rate of 104,500 acfm. To increase the velocity and pressure drop across the scrubber, Entoleter added a blanking plate (shroud) at the bottom of the vane cage of the scrubber to block approximately 25% of this area. In addition, it was determined that the outlet of the cyclones were too small creating very high pressure drops. Entoleter recommended bypassing 25% of the dryer exhaust around the cyclones directly to the wet scrubber.

In December of 2005, initial particulate matter (PM) compliance tests were conducted in accordance with EPA Method 5. The results are provided in Table B-1 at the end of this report. Individual test runs ranged from 0.005 to 0.027 grains/dscf (3.65 to 19.23 lb/hour) and the 3-run average was 0.014 grains/dscf (9.9 lb/hour) showing non-compliance. In addition to the large range of emissions, the tests indicated that 99% of the captured PM came from the probe wash and not the filter, which is unusual.

U.S. Sugar entered into a Consent Order with the South District Office regarding the failed compliance test. The Consent Order allows operation of the sugar dryer until the end of 2006 to investigate, take corrective actions, and demonstrate compliance. U.S. Sugar believes the problems are flaws in the design and has filed a lawsuit against Entoleter.

Subsequent Investigations

After the December compliance test, blanking plates were also added to the radial liquid separator to increase the velocity at this point. In addition, the scrubber water flow rate was increased from 500 to 750 gpm. In May of 2006, U.S. Sugar conducted two series of nine, half-hour test runs to evaluate total particulate matter (PM) emissions, particulate matter emissions less than 10 microns in diameter (PM₁₀), and the scrubber performance. These results are also provided in Table B-1 at the end of this report. In summary:

- Individual PM test runs conducted with EPA Method 5 ranged from 0.026 to 0.044 grains/dscf (18.61 to 32.55 lb/hour) and the 3-run average was 0.031 grains/dscf (22.7 lb/hour), again showing non-compliance. The probe wash contributed 99% to the total PM emissions.
- Individual PM₁₀ test runs conducted with EPA Method 201A ranged from 0.0013 to 0.0032 grains/dscf (0.94 to 2.37 lb/hour) and the 3-run average was 0.0019 grains/dscf (1.3 lb/hour). For the PM₁₀ tests, the probe wash contributed only 57% to the PM₁₀ emissions. These test runs indicate that PM₁₀ emissions are being controlled below the permitted emissions standards.

It is noted that some of the test runs were conducted at 50% of the maximum sugar processing rate. However, some of these test runs show very high PM emission rates. The dryer is designed to operate at a continuous flow rate of approximately 90,000 acfm regardless of the sugar processing rate. This means that a low process rate will create a less dense bed of fluidized sugar, which more readily entrains sugar in the exhaust.

Test Port Locations

The new white sugar dryer with cyclones and wet scrubber are located inside the refinery building. The test ports are installed between the wet scrubber outlet and the I.D. fan. This location provides the necessary upstream and downstream duct lengths as required by the test methods. After the I.D. fan, there is 40 feet of horizontal duct inside the building. However, there are silencer vanes within this ductwork to minimize noise

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

levels inside the building. These vanes present disturbances and test ports cannot be added in this area. The exhaust exits a horizontal vent in the side of the building that is 82 feet above ground level. There is a visible liquid discharge down the side of the refinery building from the outlet vent. Observations show little or no visible emissions (5% opacity or less).

Test Results Evaluation by Winkler APC, LLC

U.S. Sugar hired Winkler APC, LLC to analyze the test data and provide a technical opinion as to the cause. The consultant believes that water droplets from the wet scrubber are being carried over with the exhaust gas leaving the scrubber. The droplets contain dissolved sugar and are being captured by the Method 5 sampling probe as evidenced by the high contribution of PM from the probe wash. The Method 201A sampling train prevents large droplets from entering, so the reported PM₁₀ emissions test results appear more consistent with emissions expected from a high-energy wet scrubber such as the Entoleter. Collecting a single large droplet containing dissolved sugar in the Method 5 sampling train would result in very high PM emissions.

The consultant estimated that the majority of water droplets are 200 microns in size from the gas atomized venturi wet scrubber operating with a pressure drop of 10 inches of water column. Particles of this size would have a terminal settling velocity of 2.2 feet per second. The discharge vent is located in the side of the refinery building and 82 feet above ground level. This means that the droplets will fall to the ground approximately 40 feet from the refinery building assuming no influence by wind. It would take a steady 27 mph wind to drive some of the droplets far enough to fall outside U.S. Sugar's property.

Investigation by Innovative Scrubber Solutions, Inc.

U.S. Sugar hired David Taub of Innovative Scrubber Solutions, Inc. to inspect the scrubber during operation and provide his analysis of the control equipment as installed. Mr. Taub was a former Vice President of Entoleter and very familiar with the scrubber design. He noted several issues with the wet scrubber system as installed:

- The cyclone manifolds should have been installed sloping to the back to better balance the pressure drop.
- Bypassing 25% of the dryer exhaust directly to the wet scrubber should have no effect on the scrubber operation or its emissions.
- An initial review of the test results indicates possible droplet carryover from the wet scrubber.
- A mitered elbow was installed on the outlet of the scrubber which results in a velocity of 60 feet per second. A side tangential duct should have been installed on the separator tank to maintain an outlet velocity of 45 feet per second. The higher velocity and turbulence caused by the mitered elbow may be cooling the exhaust and generating liquid droplets due to condensation.
- From a visible inspection during operation, the existing mist eliminator appears to be functioning properly. This may mean that water vapor is condensing prior to the test ports. If this is the case, then adding a chevron mist eliminator before the test ports would not be effective in removing droplets.
- The blanking plate retrofit to the bottom of the vane cage allows water to spill out of the bottom and bypass the cloud. This can decrease the amount of water entering the cloud and adversely affect the cleaning action on the inside of the scrubber as well as particle removal efficiency.
- The scrubber water recycle rate was increased from 500 gpm to 750 gpm in an effort to improve removal performance. However, too much water could result in larger drops, the formation of a watery cloud, and poor particle removal.
- From a visible inspection during operation, the vane cage did not appear to be functioning properly. The wet scrubber is designed to form an atomized droplet cloud, which collects the sugar particles. The cloud did not appear in the top portion of the vane cage. In the bottom section, it would only appear about one-third of the time and when present appeared watery.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Based on his inspection, Mr. Taub recommended the following modifications to improve performance: remove the retrofit blanking plate and bottom row of vanes in the vane cage to allow proper formation of the atomized droplet cloud; install a drain on the bottom of the duct with the silencer vanes to remove the captured liquid, prevent re-entrainment of the water into the gas stream, and stop the liquid from coating the side of the refinery building; and reduce the solids content of the recycled scrubber water to prevent captured particle from being re-entrained.

In addition, the consultant indicates that it may be possible to extend the existing outlet duct to conduct new tests. The consultant believes there is a reasonable chance of demonstrating compliance at the new port locations, assuming the silencer removes the entrained water droplets and the drain removes the liquid from the ductwork. If problems continue, other, more drastic options include: redesigning the cyclone system (possibly adding a cyclone) to accept all of the dryer exhaust; moving the I.D. fan from after the scrubber to between the cyclones and the scrubber; and removing the mitered elbow and installing a properly sized vertical duct at the scrubber outlet.

Corrective Actions Taken

In July, U.S. Sugar took the following corrective actions: removed the retrofit blanking plate and bottom row of vanes in the vane cage; and reduced the solids content of the recycled scrubber water from 50 to 15 brix. The wet scrubber now shows continuous, proper formation of the atomized droplet cloud. In August, U.S. Sugar conducted a series of six test runs in accordance with EPA Method 5. PM emissions ranged from 0.011 to 0.022 grains/dscf (6.91 to 14.09 lb/hour) and the 3-run average was 0.016 grains/dscf (10.6 lb/hour). Although the test results did not show compliance with the original emission standard of 0.005 grains per dscf (4.2 lb/hour), it did show a 50% reduction in particulate matter emissions from the tests conducted in May.

U.S. Sugar considered extending the exhaust duct an additional 40 feet outside of the building to provide new test ports after the silencer vanes with the proper upstream and downstream duct lengths. In addition, the cross sectional area of the new ductwork could be increased to reduce the velocity and promote fall out of the water droplets. However, additional structural support would be necessary for the new duct, which would be more than 6 feet tall by 7 feet wide. The total cost was estimated to be \$80,000 to \$100,000, which is about one-third of the cost of the entire cyclone/wet scrubber system for the sugar dryer. This was considered too costly with an unknown benefit and was not pursued.

Conclusion

The Department visited the site and confirmed the original configuration of the equipment. Subsequent improvements include removing the blanking plate and lower vanes in the vane cage and reducing the maximum sugar content of the recycled scrubber water. Based on additional tests conducted in August, the changes appear to have reduced average emissions by approximately half of the May test results. Performance of the wet scrubber has been improved and the entrained water droplets may present more of a "housekeeping" problem than an emissions problem. Nevertheless, not all options have been explored and additional testing should be performed. Therefore, the Department agrees to revise the permit and require the following:

- Install a drain(s) in the ductwork with the silencer vanes to remove collected water.
- Reduce the maximum sugar content to 15 brix in the recirculated scrubber water.
- Establish PM₁₀ emissions standard of 0.005 grains per dscf and 4.2 lb/hour (as determined by EPA Method 201A) and a separate PM emissions standard of 15.0 lb/hour (as determined by EPA 5).
- Conduct two series of three, 1-hour test runs in accordance with EPA Method 5 to demonstrate compliance with the new "15 lb/hour" emissions standard. One series shall be conducted at a recirculation flow rate of 500 gpm and the second series shall be conducted at a recirculation flow rate of 750 gpm.
- Conduct one series of three, 1-hour test runs in accordance with EPA Method 201A to demonstrate compliance with the proposed PM₁₀ emissions standards.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

- In conjunction with the stack test reports for PM/PM₁₀ emissions, submit a report on individual costs estimates based on bids and a detailed description of the necessary work for: redesigning and modifying the cyclone system (possibly adding a cyclone) to accept all of the dryer exhaust; moving the I.D. fan from after the scrubber to between the cyclones and the scrubber; and removing the mitered elbow and installing a properly sized vertical duct at the scrubber outlet. The Department may use this information to modify this permit and reduce the particulate matter emissions standards accordingly.

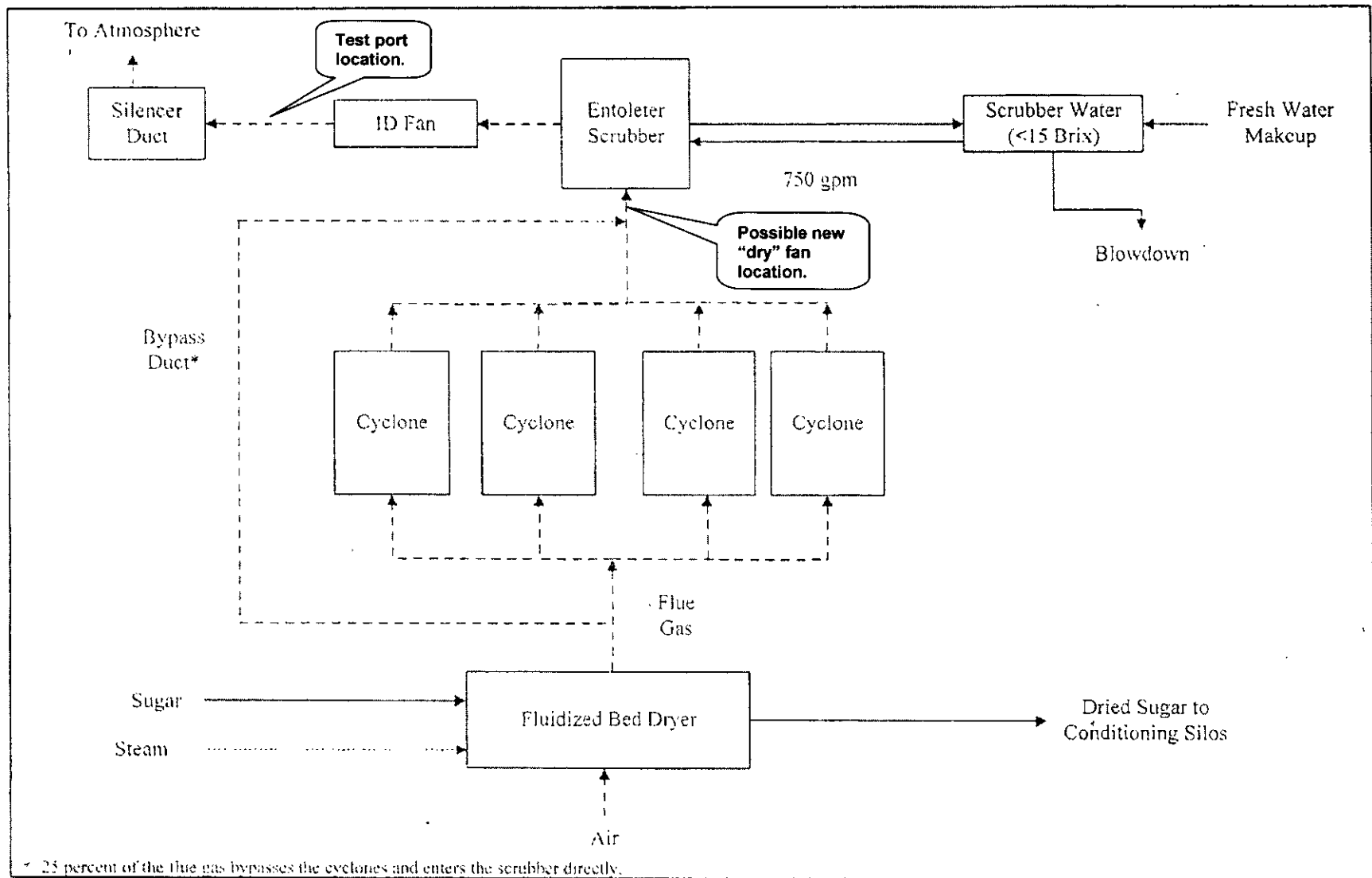
The revisions will allow U.S. Sugar to demonstrate compliance with the proposed standards, gather additional operational data, and investigate costs for possible additional improvements. The original air quality analysis evaluated PM₁₀ emissions from the new white sugar dryer. Since PM₁₀ emissions are not changing, additional modeling was not necessary.

3. PRELIMINARY DETERMINATION

Copies of the application were provided to the EPA Region 4 Office 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.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Process Flow Diagram - New White Sugar Dryer and Controls



* This diagram is from the additional information provided by Golder Associates Inc. dated September 20, 2006.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

TABLE B-1
WHITE SUGAR DRYER NO. 2 PM EMISSION TESTS

Run Number	Test Date	Start/End Time	% Load	Stack Gas Flow Rate (dscfm)	Stack Gas Flow Rate (acfm)	Allowable PM Emissions (EPA Method 5)		Actual PM Emissions (EPA Method 5)		Avg. Water Flow (gpm)	Avg. Pressure Drop		Particulate Data		
						lb/hr	gr/dscf	lb/hr	gr/dscf		Cyclone (in. H ₂ O)	Scrubber (in. H ₂ O)	Filter (mg)	Wash (mg)	% Wash of Total
1	12/07/05	1056-1206	100	82,909	96,941	4.2	0.005	6.82	0.0096	529.4	3.8	9.6	0.3	23.5	98.7
2	12/07/05	1235-1345	100	82,993	97,239	4.2	0.005	3.65	0.0051	527.8	4.0	9.0	0.2	12.4	98.4
3	12/07/05	1453-1605	100	82,541	97,104	4.2	0.005	19.23	0.0272	524.8	4.0	9.0	0.4	65.2	99.4
Average=				82,814	97,095	4.2	0.005	9.9	0.0140	527	3.9	9.2			98.8
1	05/24/06	0852-0927	100	83,682	96,546	4.2	0.005	26.10	0.0364	747.7	5.0	9.0	1.0	46.5	97.9
2	05/24/06	1002-1037	100	82,769	95,849	4.2	0.005	18.61	0.0262	747.7	4.3	9.0	0.7	33.8	98.0
3	05/24/06	1100-1134	100	83,743	96,872	4.2	0.005	20.89	0.0291	750.0	4.3	9.0	0.6	36.6	98.4
4	05/24/06	1208-1243	50	85,704	98,102	4.2	0.005	19.65	0.0267	750.0	4.8	9.5	0.5	35.1	98.6
5	05/24/06	1303-1337	50	86,321	98,919	4.2	0.005	32.55	0.0440	747.3	3.7	10.7	0.5	57.1	99.1
6	05/24/06	1350-1425	50	85,981	98,614	4.2	0.005	20.89	0.0283	749.0	4.0	10.0	0.8	36	97.8
7	05/25/06	0802-0836	100	82,866	96,457	4.2	0.005	24.30	0.0342	747.7	4.7	10.0	0.5	42.7	98.8
8	05/25/06	0850-0925	100	82,501	96,272	4.2	0.005	20.21	0.0286	749.7	4.0	10.3	0.7	34.1	98.0
9	05/25/06	0934-1008	100	83,246	97,078	4.2	0.005	20.99	0.0294	745.7	3.0	11.0	0.6	35.4	98.3
Average=				84,090	97,190	4.2	0.005	22.7	0.0314	748	4.2	9.8			98.3
1	08/23/06	1320-1353	50	74,966	88,090	4.2	0.005	14.09	0.0219	750	3.0	8.5	0.8	28.9	97.9
2	08/23/06	1415-1449	50	75,900	88,771	4.2	0.005	10.38	0.0160	750	2.3	8.7	0.8	22.5	98.0
3	08/23/06	1502-1535	50	75,677	89,775	4.2	0.005	10.61	0.0164	751	3.0	8.7	0.7	23.3	98.4
4	08/23/06	1543-1600	50	75,650	89,117	4.2	0.005	11.97	0.0185	747	2.5	9.0	0.7	26.2	98.6
5	08/23/06	1635-1708	50	75,618	89,384	4.2	0.005	9.72	0.0150	757	3.0	8.7	0.8	21.1	99.1
6	08/23/06	1720-1753	50	76,365	89,939	4.2	0.005	6.91	0.0106	752	3.3	9.0	1.1	14.2	98.3
Average=				75,696	89,179	4.2	0.005	10.6	0.0164	751	2.9	8.8			98.4

Notes:

lb/hr = pounds per hour
 gr/dscf = grains per dry standard cubic foot
 mg = milligrams

* This table is from additional information provided by Golder Associates Inc. dated September 20, 2006.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

TABLE B-2
WHITE SUGAR DRYER NO. 2 PM₁₀ EMISSION TESTS

Run Number	Test Date	Start/End Time	% Load	Stack Gas Flow Rate (dscfm)	Stack Gas Flow Rate (acfm)	Allowable PM ₁₀ Emissions		Actual PM ₁₀ Emissions (EPA Method 210A)		Avg. Water Flow (gpm)	Avg. Pressure Drop		Particulate Data		
						lb/hr	gr/dscf	lb/hr	gr/dscf		Cyclone (in. H ₂ O)	Scrubber (in. H ₂ O)	Filter (mg)	Wash (mg)	% Wash of Total
1	05/23/06	1015-1040	50	85,299	93,003	4.2	0.005	2.37	0.00324	749.7	4.7	9.7	1.1	1.5	57.7
2	05/23/06	1127-1200	50	85,082	92,570	4.2	0.005	1.59	0.00218	753.0	4.3	9.7	0.7	1	58.8
3	05/23/06	1220-1254	50	85,713	92,883	4.2	0.005	1.13	0.00154	750.0	4.0	9.8	0.7	0.5	41.7
4	05/23/06	1400-1433	100	83,395	91,246	4.2	0.005	1.02	0.00143	750.0	4.6	9.7	0.4	0.8	66.7
5	05/23/06	1450-1554	100	84,141	91,790	4.2	0.005	1.75	0.00242	750.6	4.0	10.0	1	1	50.0
6	05/23/06	1545-1619	100	83,009	90,815	4.2	0.005	1.06	0.00149	750.3	4.0	10.0	0.5	0.7	58.3
7	05/25/06	1024-1058	100	83,263	91,101	4.2	0.005	1.02	0.00143	749.7	4.0	10.3	0.5	0.7	58.3
8	05/25/06	1110-1144	100	83,058	90,876	4.2	0.005	0.94	0.00131	745.7	4.0	10.0	0.4	0.7	63.6
9	05/25/06	1153-1228	100	82,799	90,877	4.2	0.005	1.26	0.00177	751.0	3.7	11.0	0.7	0.8	53.3
Average=				83,973	91,684	4.2	0.005	1.3	0.00187	750	4.1	10.0			56.5

Notes:

lb/hr = pounds per hour

gr/dscf = grams per dry standard cubic foot

mg = milligrams

** This table is from additional information provided by Golder Associates Inc. dated September 20, 2006.*

{Filename: PSD-FL-346A 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-346A Project No. 0510003-038-AC Revised PM/PM ₁₀ Standards Permit Expires: December 31, 2007

FACILITY AND LOCATION

The United States Sugar Corporation operates the existing Clewiston sugar mill and refinery (SIC Nos. 2061, 2062), 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.

STATEMENT OF BASIS

This permit modification revises the PM/PM₁₀ emissions standards and 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.

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

(DRAFT)

Joseph Kahn, Director
Division of Air Resource Management

Effective Date

SECTION 1. GENERAL INFORMATION

PROJECT DESCRIPTION

The United States Sugar Corporation installed new White Sugar Dryer No. 2 (EU-029) to support the existing refinery operations. Particulate matter emissions are controlled by a set of four high efficiency cyclone collectors in parallel followed by a wet atomizing venturi-type scrubber. Initial testing shows water droplets containing dissolved sugar in the exhaust stream. This permit modification revises the permit and requires following actions: retain the current standard of "4.2 lb/hour" as the PM₁₀ standard with compliance demonstrated by EPA Method 201A; add a new PM standard of "15 lb/hour" with compliance demonstrated by EPA Method 5; install a drain in the silencer ductwork to prevent re-entraining water droplets; reduce the maximum sugar concentration of the recycled scrubber water; conduct new compliance tests; and submit a report detailing the costs of several possible additional improvements. Based on the cost information and addition test data, the Department may modify this permit to reduce the particulate matter emissions standards.

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. Source Obligation:
 - (a) Authorization to construct shall expire if construction is not commenced within 18 months after receipt of the permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. This provision does not apply to the time period between construction of the approved phases of a phased construction project except that each phase must commence construction within 18 months of the commencement date established by the Department in the permit.
 - (b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.
 - (c) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.
[Rule 62-212.400(12), F.A.C.]
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. 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

SECTION 2. ADMINISTRATIVE REQUIREMENTS

construction or modification. [Rule 62-4.030 and Chapters 62-210 and 62-212, F.A.C.]

10. 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 <u>82</u> feet above ground level with a with a volumetric flow rate of 96,000 <u>92,000</u> 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~~ 92,000 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 4 - 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~~ 92,000 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 - 10 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 - 10 inches of water column.}* [Design; Rule 62-4.070(3), F.A.C.]

EMISSIONS STANDARDS

5. Particulate Matter: As determined by EPA Method 5 201A stack test, particulate matter emissions less than 10 microns (PM₁₀) shall not exceed 0.005 grains per dscf and 4.2 pounds per hour based on the average of three test runs. As determined by EPA Method 5 stack test, particulate matter emissions shall not exceed 15.0 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 – Revised: The permittee shall conduct an initial stack tests to demonstrate compliance with the particulate matter emissions standards within ~~60~~ 90 days after issuance of this final permit and after installing the drain(s) in the ductwork with the silencer vanes to remove collected water achieving the maximum sugar processing rate, but not later than 180 days after initial startup. The permittee shall conduct one series of three, 1-hour test runs to demonstrate compliance with the PM₁₀ and visible emissions standards. The permittee shall conduct two series of three, 1-hour test runs to demonstrate compliance with the PM and visible emissions standards. For the PM tests, one series shall be conducted at a recirculation flow rate of 500 gpm and the second series shall be conducted at a recirculation flow rate of 750 gpm. 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 201A (PM₁₀), EPA Method 5 (~~particulate emissions~~-PM), EPA Methods 1 - 4 (as necessary to support EPA Methods 201A and 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

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

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

cyclone collector. *{Permitting Note: The design pressure differential for the cyclone collectors is 4 - 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). 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 air flow rate; the scrubber water recirculation rate (gpm); the scrubber water sugar content in brix; 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.]

ADDITIONAL REQUIREMENTS – PM/PM₁₀ REVISION

11. **Drain:** Within 30 days of issuance of this final permit, the permittee shall install a drain(s) in the ductwork with the silencer vanes to remove collected water. The permittee shall notify the Bureau of Air Regulation and the Compliance Authority when the drain is installed. [Rule 62-4.070(3), F.A.C.]
12. **Sugar Content of Recirculating Scrubber Water:** Within 30 days of issuance of this final permit, the scrubber system shall be reset to operate so that fresh makeup water will be added to maintain a maximum sugar content of 15 brix in the recirculated scrubber water. [Rule 62-4.070(3), F.A.C.]
13. **Additional Report:** In conjunction with the required PM/PM₁₀ stack test report, the permittee shall provide individual cost estimates based on bids and a detailed description of the necessary work for: redesigning and modifying the cyclone system (possibly adding a cyclone) to accept all of the dryer exhaust; moving the I.D.fan from after the scrubber to between the cyclones and the scrubber; and removing the mitered elbow and installing a properly sized vertical duct at the scrubber outlet. Based on the cost information and additional test data, the Department may modify this permit to reduce the particulate matter emissions standards. [Rules 62-4.070(3) and 62-212.400(PSD), 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(12)(g), F.A.C., F.A.C.; Air Permit No. PSD-FL-346A]

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

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

SECTION 4. APPENDICES

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Appendix A. Citation Formats

Appendix B. General Conditions

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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

SECTION 4. APPENDIX B

General Conditions

Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

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

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.]

Memorandum

Florida Department of Environmental Protection

TO: Trina Vielhauer, Chief - Bureau of Air Regulation
FROM: Jeff Koerner, Air Permitting North JK
DATE: November 6, 2006
SUBJECT: Draft Air Permit No. PSD-FL-346A
Project No. 0510003-038-AC
U.S. Sugar Corporation, Clewiston Sugar Mill and Refinery
New White Sugar Dryer – Revision of PM/PM₁₀ Standard

Attached for your review are the following items for a revised air construction permit:

- Intent to Issue 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 December 3, 2006. This PSD project requires a 30-day comment period. I recommend your approval of the attached Draft Permit for this project.

Attachments

P.E. CERTIFICATION STATEMENT

PERMITTEE

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

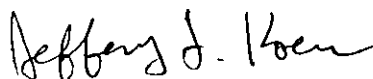
Draft Air Permit No. PSD-FL-346A
Project No. 0510003-038-AC
New White Sugar Dryer No. 2
Revised PM/PM₁₀ Standards

PROJECT DESCRIPTION

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. In accordance with a PSD preconstruction review permit, the applicant installed a new white sugar dryer designed to remove moisture from refined sugar prior to storage in a conditioning silo. No fuel is combusted. Low-pressure steam supplies the heat necessary for drying. Sugar particles in the exhaust stream are removed with a set of four cyclone collectors followed by a wet atomizing venturi-type scrubber. Sugar captured by the cyclones is transferred to storage. Sugar captured by the scrubber water is recycled back to the refining process. The original project was subject to PSD preconstruction review and a determination of the Best Available Control Technology (BACT) for particulate matter (PM) and particulate matter less than 10 microns in diameter (PM₁₀).

After completing construction, emissions tests showed low PM₁₀ emissions, but unexpectedly higher total PM emissions. Investigations indicate that large water droplets containing dissolved sugar are being re-entrained in the exhaust gas stream. Observations and estimation techniques indicate that the entrained droplets quickly settle to the ground and substantially remain on plant property. Subsequent equipment modifications have improved performance and reduced PM emissions by approximately half, but total PM emissions still remain high due to the droplets. The draft permit includes the following changes: retain the current standard of "4.2 lb/hour" as the PM₁₀ standard with compliance demonstrated by EPA Method 201A; add a new PM standard of "15 lb/hour" with compliance demonstrated by EPA Method 5; install a drain in the silencer ductwork to prevent re-entraining water droplets; reduce the maximum sugar concentration of the recycled scrubber water; conduct new compliance tests; and submit a report to summarizing the costs of possible additional improvements to reduce emissions.

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

11-6-06

(Date)