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Golder Associates

October 20, 2006

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Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RECEIVED

OCT 23 2006

BUREAU OF AIR REGULATION

Attention: Mr. Jeff Koerner, BAR, Air Permitting North

RE: UNITED STATES SUGAR CORPORATION, CLEWISTON MILL
BOILER NO. 8 STEAM RATE INCREASE
PERMIT REVISION APPLICATION
PERMIT NO. 0510003-037-AC
REQUEST FOR ADDITIONAL INFORMATION

Dear Mr. Jeff Koerner:

United States Sugar Corporation (U.S. Sugar) and Golder Associates Inc. have received the Florida Department of Environmental Protection's (FDEP) email requests for additional information (RAI) dated June 23 and June 30, 2006. We have reviewed the RAI and developed responses to each of the FDEP's comments. The responses are provided below.

June 23, 2006 Email

Comment 1. Steam Rate Increase: Please submit some operational data indicating the steam rate of Boiler 8 as constructed.

Response: Operational data, which is based on U.S. Sugar's continuous emissions monitoring system (CEMS), was obtained for Boiler No. 8 for operations during the crop season (November 1, 2005 through April 10, 2006). As presented in Table 1, the maximum hourly steam rate of 572,900 pounds per hour (lb/hr) occurred on December 21, 2005. All data during the crop season was analyzed, but only the period with the highest steaming rate is presented in the table. This maximum steam rate was increased by approximately 10 percent in the permit revision application to provide a margin of safety, and results in a maximum steam rate of 633,000 lb/hr (1-hour average).

Comment 2. Startup: Please submit some operational data during a long startup indicating: load, oxygen, ammonia, injection rate, and CO/NO_x emissions. Are there "hot" startups and "cold" startups?

Response: Current startup is defined as ending when the boiler reaches 200,000 lb/hr steam or 6 hours after fuel is first fed to the boiler, whichever occurs first. However, this 6 hour period for startup was not based on actual boiler operation. Actual operational data, including steam rate, heat input, oxygen (O_2), wet O_2, urea injection rate, nitrogen oxide (NO_x), and carbon monoxide (CO) emissions, are presented in Table 2 for four long startup scenarios. In the table, the extra startup time is indicated by asterisks.

In the first scenario, which includes data from November 21, 2005, the steam rate, heat input, O_2, wet O_2, NO_x, and CO emissions do not stabilize until after 8 hours of operation. In this scenario, the boiler was down 2 hours before startup, which is considered a "hot" startup.

In the second scenario, which includes data from December 27-28, 2005, the steam rate, heat input, O_2, and wet O_2 do not stabilize until after 10 hours of operation. In addition, the CO emissions do not stabilize until after 11 hours of operation. In this scenario, the boiler was down 15 hours before startup, which is considered a "cold" startup.

In the third scenario, which includes data from March 14-15, 2006, the O_2 and wet O_2 do not stabilize until after 9 hours of operation, while the steam rate, heat input, and CO emissions do not stabilize until after 10 hours of operation. In this scenario, the boiler was down 12 hours before startup, which is considered a "cold" startup.

In the fourth scenario, which includes data from April 3-4, 2006, the O_2, wet O_2, and NO_x emissions do not stabilize until after 7 hours of operation, while the steam rate, heat input, and CO emissions do not stabilize until after 8 hours of operation. In this scenario, the boiler was down 6 hours before startup, which is considered a "cold" startup.

In each of the startup scenarios, a maximum startup time of 6 hours does not allow the boiler to reach normal operating levels. Boiler No. 8 does experience hot startups, as presented in the first scenario, however, most of the hot startups require the same amount of time to stabilize as the cold startups.

Comment 3. **Please identify the problems with the installed baghouses and provide additional details on the physical changes to the existing conveyor system. Define "Bagacillo". What does the Bagacillo cyclone control? Provide additional details on the design of the Bagacillo cyclone. Is there vendor information to support > 99.99% control?**

Response: The installed baghouses have become corroded and require continuous maintenance. Due to the wet bagasse, the baghouse filters become plugged and the baghouse pulses continuously in order to clean itself. The baghouses are not operating properly and not functioning the way they were designed. It is noted that these baghouses were voluntarily installed by U.S. Sugar, i.e., there was no regulatory requirement to install them. U.S. Sugar installed the baghouses as a test to determine if they could help reduce any dust from the conveyor transfer points.

The existing conveyor system is undergoing modifications that include enclosing the conveyors and transfer points, installing new conveyors, and upgrading the current conveyor belt design. The first physical change is enclosing the existing and new conveyors and transfer points. The second physical change is upgrading the current conveyor belt design. As explained in the application, as bagasse is transferred from one conveyor to another, the force from the dropped bagasse causes the belt to move up and down. This up and down movement causes the bagasse to be suspended in air instead of settling on the belt. The up and down motion will be curtailed by installing "landing zones" on each conveyor. A landing zone is a hard surface under the belt and at an angle along the sides of the belt. The landing zone will prevent the belt from moving vertically at each drop location and create a better enclosure for the conveyors.

Bagacillo is very fine bagasse. As bagasse is conveyed from the mill to the boilers via the bagasse conveyor, a portion of the bagasse is pneumatically pulled off the conveyor to a drum. As the bagasse enters the drum, air sucks off the smaller bagasse particles (i.e., bagacillo). The bagacillo is then pneumatically conveyed to the Boiling House. At the Boiling House, the bagacillo is separated from the conveying air stream by use of a cyclone. The conveying air is then discharged to the atmosphere. After the bagacillo material is collected in the cyclone, it is mixed with clarifier mud to be used as part of the cake material on the vacuum filters. The bagacillo cyclone is part of the pneumatic conveying system to recover material and is not utilized as a control device. A drawing of the original bagacillo cyclone is presented in Figure 1. Because the cyclones were installed in 1960, no vendor information is available.

June 30, 2006 Email

Comment 1. **The increase in steam production also resulted in an increase in the maximum heat input rate as well as the short-term emissions that formed the basis of the original Air Quality Analysis. In addition to the previous questions, we will also need a revised PSD netting analysis and Air Quality Analysis for the modification.**

Response: Because the boiler has been operating for less than 2 years (started up mid-March 05), it is classified as a "new emissions unit." [Rule 62-210.200(205)]. Further, under the definition of "baseline actual emissions" [Rule 62-210.200(35)], for a new emissions unit, the baseline actual emissions are equal to the unit's potential to emit, (except for determining the emissions increase due to the initial construction and operation of the unit). As a result, for determining prevention of significant deterioration (PSD) applicability, the unit's baseline actual emissions are equal to the unit's potential emissions. Since the annual potential emissions are not increasing as a result of the steam rate increase, the net increase in emissions is zero. However, a new Air Quality Analysis was performed for Boiler No. 8 with the revised emission rates and stack parameters. Because Boiler No. 8 is permitted to operate all year, the emissions were not separated for the crop versus off-crop seasons.

A source impact analysis was performed for particulate matter with diameter less than or equal to 10 micrometers (PM_{10}), sulfur dioxide (SO_2), CO, and NO_x emissions resulting from Boiler No. 8. For this analysis, the total emissions from Boiler No. 8 were modeled, reflective of the higher short-term steam production rates. The short-term emission factor for CO was reevaluated using CEMS data during normal operation (i.e., excluding startup, shutdown, and malfunctions). The maximum actual CO emission factor from Boiler No. 8 was approximately 30-percent lower than the emission factor used in the June 2006 permit revision application. A safety factor was then applied to the new CO emission factor, resulting in a CO emission actor of 3.0 lb/MMBtu. Revised application pages for CO are included with this RAI.

For the ambient air quality standard (AAQS) analysis, the future emissions of the Clewiston Mill were modeled together with background emission facilities (see Table 13). The total air quality concentration was estimated by adding the maximum concentrations from all modeled sources to a non-modeled background concentration. The maximum annual and short-term total air quality concentrations were then compared to the AAQS.

For the PSD Class II increment analysis, the PSD increment consuming and expanding sources at the Clewiston Mill site were modeled with background PSD consuming or expanding sources. The maximum annual and short-term concentrations were compared to the allowable PSD Class II increments.

The nearest PSD Class I area to the Clewiston Mill site is the Everglades National Park (NP), located about 102 kilometers (km) (60 miles) to the south. There are no other PSD Class I areas located within 200 km of the site. For the Boiler No. 8 project, a PSD Class I significant impact analysis was performed to determine the maximum predicted pollutant impacts at the Everglades NP. For any maximum pollutant impact that is above a PSD Class I significant impact level, a detailed modeling analysis must be performed to evaluate compliance with the allowable PSD Class I increments.

The selection of an air quality model to predict air quality impacts for the proposed project was based on the ability of the model to simulate impacts in areas surrounding the project site. The American Meteorological Society and EPA Regulatory Model (AERMOD) dispersion model was selected to address air quality impacts for the project. AERMOD dispersion model (Version 04300) is available on the EPA's Internet web site, Support Center for Regulatory Air Models (SCRAM), within the Technical Transfer Network (TTN).

The AERMOD model was used to predict the maximum pollutant concentrations for the project in nearby areas surrounding the Clewiston Mill. For this analysis, the EPA regulatory default options were used to predict all maximum impacts.

These options include:

- Final plume rise at all receptor locations
- Stack-tip downwash
- Buoyancy-induced dispersion
- Default wind speed profile coefficients
- Default vertical potential temperature gradients
- Calm wind processing

The CALPUFF model was used to assess impacts from the project at the PSD Class I area of the Everglades NP located about 102 km from the Clewiston Mill. The predicted concentrations were then compared to applicable PSD Class I significant impact levels.

Meteorological data used in the AERMOD model to determine air quality impacts consisted of a concurrent 5-year period of hourly surface weather observations from the National Weather Service (NWS) office located at the Palm Beach International (PBI) Airport and twice-daily upper air soundings collected at the Florida International University (FIU) in Miami. Concentrations were predicted using 5 years of hourly meteorological data from 2001 through 2005. The NWS office at PBI is located approximately 82 km (51 miles) east of the Clewiston Mill site and is the closest primary weather station to the study area considered to have meteorological data representative of the site. The meteorological data from this NWS station have been used for numerous air modeling studies within the sugar industry and for the Clewiston Mill.

The data for these stations were developed by the FDEP and processed into a format that can be input to the AERMOD model using the meteorological preprocessor program AERMET.

Based on the building dimensions associated with buildings and structures at the plant, all stacks at the Clewiston Mill will comply with the good engineering practice (GEP) stack height regulations. However, these stacks are less than GEP height. Therefore, the potential for building downwash to occur was considered in the air modeling analysis for these stacks.

The building dimensions considered in the air modeling analysis for the Clewiston Mill are presented in Table 3. The location of the buildings and stacks can be found on the site plot plan (Figure 2). At the Clewiston Mill, one or more buildings can cause building downwash effects at several stacks. For the modeling analysis, direction-specific building dimensions are input for H_b and l_b for 36 radial directions, with each direction representing a 10-degree sector. All direction-specific building parameters were calculated with the Building Profile Input Program (BPIP) with the Plume Rise Enhancement (PRIME) downwash algorithm, Version 04274. The BPIP program was used to generate building data for the ISCST3 model input.

For predicting maximum concentrations in the vicinity of the Clewiston Mill, more than 4,000 receptors located at the Mill's restricted property line and at offsite receptors were used. The receptors were modeled using the Universal Transverse Mercator (UTM) coordinate system, Zone 17, North American Datum 1927 (NAD27).

The stack and operating parameters for Boiler No. 8 are presented in Table 4. To determine relative locations of predicted impacts, a model origin was assumed to be at the stack location for Boiler No. 4. The origin was assigned X and Y coordinates of 0.0 m each and east and north UTM coordinates of 506,128.2 and 2,956,936.3 km, respectively.

Nested Cartesian receptor grids were used in addition to discrete Cartesian receptors along the Mill fence line. The significant impact analysis used the following receptor spacing:

- 50-meter intervals along the fence line,
- 100-meter intervals beyond the fence line to 2 km from the Mill,

- 250-meter intervals from 2 to 5 km from the Mill,
- 500-meter intervals from 5 to 10 km from the Mill, and
- 1000-meter intervals from 10 to 15 km from the Mill.

Receptor elevations and hill scale heights for all receptors were obtained from 7.5-minute USGS Digital Elevation Model (DEM) data using the AERMOD terrain preprocessor program AERMAP, Version 04300.

Concentrations were also predicted at 251 receptors located at the PSD Class I area of the Everglades NP. The receptors used were a subset of the 901 Everglades NP receptors provided by the National Park Service (NPS). The subset includes all NPS boundary receptors and a reduced resolution for the interior section of the Everglades NP. Because the distance to the Everglades NP is over 100 km and the terrain is flat, the subset receptor grid is considered adequate for capturing maximum impacts at the Everglades NP.

The maximum future short-term emissions for the 1-hour and 24-hour averaging periods for Boiler No. 8 are presented in Table 5. The maximum future annual emissions are presented in Table 6. Emissions are shown for 100%, 75%, and 50% load conditions, as well as for the maximum 24-hour average steam rate.

Significant Impact Analysis

The maximum predicted SO_2, NO_2, PM_{10}, and CO concentrations from the future Boiler 8 only are compared to the EPA significant impact levels in Table 7 for different boiler load scenarios. The results demonstrate that the maximum predicted NO_2, PM_{10}, and CO concentrations are below the respective significant impact levels and additional air modeling analyses are not required for these pollutants. However, the maximum predicted SO_2 concentrations are above the significant impact levels. As a result, additional detailed air modeling analyses are required to determine compliance with the SO_2 AAQS and the allowable SO_2 PSD Class II increments.

A summary of the SO_2 facilities considered for inclusion in the AAQS and PSD Class II air modeling analysis is presented in Table 8. A detailed summary of the stack operation and emissions data of the SO_2 facilities included in the modeling analysis is presented in Table 9.

AAQS Analysis

The maximum SO_2 concentrations predicted for all sources from the screening and refined analyses are presented in Tables 10 and 11, respectively. The refined modeling results are added to a non-modeled background concentration to produce a total air quality concentration that can be compared with the AAQS.

As shown in Table 11, the maximum total 3-hour, 24-hour, and annual average SO_2 concentrations are predicted to be 88, 38 and 11 micrograms per cubic meter ($\mu g/m^3$), respectively. These concentrations are all below the respective AAQS of 1,300, 260, and 60 $\mu g/m^3$ for these averaging periods.

PSD Class II Increment Analyses

The maximum SO_2 concentrations predicted for the PSD sources from the screening and refined analyses are presented in Tables 12 and 13, respectively. Many of the maximum impacts occurred at or near the Clewiston Mill property boundary. Some occurred at the edge of the receptor grid, over 10 km away. This would indicate that the maximum impacts are due to a source other than the Clewiston Mill.

As presented in Table 13, the maximum 3-hour, 24-hour, and annual average SO_2 Class II increment consumption concentrations are predicted to be 39, 9, and <0 $\mu g/m^3$, respectively. These concentrations are below the respective allowable PSD Class II increments of 512, 91, and 20 $\mu g/m^3$ for these averaging periods.

PSD Class I Significant Impact Analysis

The maximum SO_2, NO_2 and PM_{10} concentrations predicted at the Everglades NP PSD Class I area for the future Boiler No. 8 are presented in Table 14. As shown, the maximum 3-hour, 24-hour, and annual average SO_2 concentrations are predicted to be 0.31, 0.08, and 0.003 $\mu g/m^3$, respectively. These concentrations are well below the respective PSD Class I significant impact levels 1.0, 0.2, and 0.1 $\mu g/m^3$, for these averaging periods. The maximum annual average NO_2 is predicted to be 0.003 $\mu g/m^3$, which is below the PSD Class I significant impact level of 0.1 $\mu g/m^3$. The maximum 24-hour and annual average PM_{10} concentrations are predicted to be 0.034 and 0.002 $\mu g/m^3$, respectively. These concentrations are well below the respective PSD Class I significant impact levels of 0.3 and 0.2 $\mu g/m^3$. Because Boiler No. 8's future impacts were below all the PSD Class I significant impact levels, more detailed modeling analyses were not required.

Boiler No. 8 originally had a wet control device (i.e., wet cyclone) prior to the electrostatic precipitator (ESP). Boiler maximum achievable control technology (MACT) regulations required U.S. Sugar to monitor ESP parameters under Subpart DDDDD to demonstrate ongoing compliance with the PM emission limit. However, U.S. Sugar is testing the feasibility of eliminating the water spray to the cyclones (water will still be used for sluicing collected ash from the cyclones). Until this issue is settled, the cyclones may be operated either wet or dry. Boiler MACT requires U.S. Sugar install an opacity monitor if a dry control device is used for PM control. Because U.S. Sugar would like to keep the ESP parameters in lieu of the opacity monitor, even if the cyclones are operated dry, U.S. Sugar is proposing an alternative monitoring plan for Boiler No. 8, as allowed under 40 CFR 63, Subpart A.

Instead of continuous opacity monitoring, U.S. Sugar is requesting the use of the following procedures for a wet control device in order to demonstrate compliance with the applicable emission limit for particulate matter when operating the cyclones as a dry control device.

1. Perform the performance test according to 40 CFR 63.7530(c) and Table 7 of Subpart DDDDD;
2. Determine the minimum operating limits established during the performance test by taking the 90^{th} percentile of the lowest test run average secondary voltage and secondary current (or total power input) measured during the tests that demonstrate compliance with the applicable emission limit;

3. Maintain minimum secondary voltage and secondary current or total power input of the ESP (all based on a 3-hour average) at or above the operating limits established during the performance test; and

4. Follow the ESP maintenance schedule and procedures to ensure that the components are well maintained.

If you have any questions, please do not hesitate to call me at (352) 336-5600.

Sincerely,

GOLDER ASSOCIATES INC.

David A. Buff

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

cc: Ron Blackburn, FDEP South District
Don Griffin
Peter Briggs

DB/all

Enclosures

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REVISED APPLICATION PAGES

APPLICATION INFORMATION

Professional Engineer Certification

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

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

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

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

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

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

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

David A. Buff — 10/20/06

Signature — Date

(seal)

* Attach any exception to certification statement.

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

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

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **BLR-8**	2. Emission Point Type Code: **1**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	

5. Discharge Type Code: **V**	6. Stack Height: **199** feet	7. Exit Diameter: **10.92** feet
8. Exit Temperature: **315** °F	9. Actual Volumetric Flow Rate: **395,000** acfm	10. Water Vapor: **24** %

11. Maximum Dry Standard Flow Rate: **270,000** dscfm	12. Nonstack Emission Point Height: feet
13. Emission Point UTM Coordinates... Zone: East (km): North (km):	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)

15. Emission Point Comment:

Stack parameters are based on biomass firing at the maximum 24-hour heat input rate. Maximum standard flow rates are at 7-percent oxygen.

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

(Optional for unregulated emissions units.)

<u>Potential/Estimated Fugitive Emissions</u>

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

1. Pollutant Emitted: **CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **3,555.0** lb/hour **1,285** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **400 ppmvd @ 7% O_2, 30-day rolling average** Reference: **MACT Limit**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

Maximum 1-hour rate: 1,185 MMBtu/hr x 3.0 lb/MMBtu = 3,555.0 lb/hr
Maximum 24-hour rate: 1,077 MMBtu/hr x 3.0 lb/MMBtu = 3,231.0 lb/hr

30-day rolling average based on 40 CFR 63, Subpart DDDDD:
400 ppmvd @ 7% O_2 x 270,000 dscfm @ 7% O_2 x 60 min/hr x 2,116.8 lb_f/ft^2 ÷ (1,545.6/28) ft-lb_f/lb_m-°R ÷ 528°R = 470.6 lb/hr

Annual based on 30-day rolling average:
470.6 lb/hr x 8,760 hr/yr ÷ 2,000 lb/ton = 2,061.2 TPY

11. Potential Fugitive and Actual Emissions Comment:

Annual limit based on 12-month rolling total from Permit No. 0510003-030-AC/PSD-FL-333B.

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: **RULE**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **400 ppmvd @ 7% O_2**	4. Equivalent Allowable Emissions: **470.6** lb/hour **2,061.2** tons/year
5. Method of Compliance: **CO CEMS**	
6. Allowable Emissions Comment (Description of Operating Method): **MACT Limit, 40 CFR 63, Subpart DDDDD, Table 1. Limit based on 30-day rolling average.**	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **1,285 TPY**	4. Equivalent Allowable Emissions: lb/hour **1,285** tons/year
5. Method of Compliance: **CO CEMS**	
6. Allowable Emissions Comment (Description of Operating Method): **Limit based on 12-month rolling total. Annual TPY includes periods of startup, shutdown, and malfunction (SSM).**	

Allowable Emissions Allowable Emissions ____ of ____

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

TABLES

TABLE 1
HISTORICAL MAXIMUM STEAM PRODUCTION RATE OF BOILER NO. 8

Hour	Steam Production (klbs) [a]
12/20/05 15:00	509.3
12/20/05 16:00	506.5
12/20/05 17:00	543.3
12/20/05 18:00	501.5
12/20/05 19:00	485.6
12/20/05 20:00	534.8
12/20/05 21:00	530.6
12/20/05 22:00	572.9
12/20/05 23:00	538.9
12/21/05 0:00	539.5
12/21/05 1:00	525.7
12/21/05 2:00	550.6
12/21/05 3:00	558.6
12/21/05 4:00	556.6
12/21/05 5:00	522.9
12/21/05 6:00	496.2
12/21/05 7:00	499.8
12/21/05 8:00	510.8
12/21/05 9:00	457.0
12/21/05 10:00	519.3
12/21/05 11:00	537.1
12/21/05 12:00	500.1
12/21/05 13:00	519.6
12/21/05 14:00	507.0
12/21/05 15:00	501.3
12/21/05 16:00	525.6
12/21/05 17:00	528.7
12/21/05 18:00	509.7
12/21/05 19:00	557.8
12/21/05 20:00	532.8
12/21/05 21:00	538.2
12/21/05 22:00	539.7
Maximum =	572.9

[a] Data represents the period of the highest steam production rate during the crop season (November 1, 2005 and April 10, 2006), which was obtained from the U.S. Sugar CEMS.

TABLE 2
LONG STARTUP OPERATIONAL DATA FOR USSC BOILER NO. 8

Hour	Operation Status*	Steam Production (klbs)	Heat Input (MMBtu)	O_2 (%)	Wet O_2 (%)	Urea Injection (gal)	NOx (lb/MMBtu)	CO (ppm @ 7% O_2)
11/21/05 5:00	Normal	374.4	702.8	6.8	5.8	39.6	0.17	100.4
11/21/05 6:00	Normal	368.2	690.4	6.9	5.8	41.3	0.17	96.8
11/21/05 7:00	Normal	412.2	767.9	5.4	4.6	45.1	0.15	47.4
11/21/05 8:00	Normal	316.9	588.6	7.1	6.1	29.9	0.14	49.2
11/21/05 9:00	Shutdown	150.9	160.5	9.3	7.9	15.3	0.23	900.1
11/21/05 10:00	Down	Down	Down	Down	Down	Down	Down	Down
11/21/05 11:00	Down	Down	Down	Down	Down	Down	Down	Down
11/21/05 12:00	Startup	0.0	16.3	19.2	18.2	Down	0.17	54.0
11/21/05 13:00	Startup	0.0	39.5	18.5	17.6	Down	0.14	155.8
11/21/05 14:00	Startup	3.1	5.2	17.8	16.9	Down	0.40*	192.4
11/21/05 15:00	Startup	77.6	124.7	15.6	14.5	4.7	0.20	928.7
11/21/05 16:00	Startup	51.2	38.9	14.3	13.1	2.2	0.37	2900.3
11/21/05 17:00	***	251.0	475.0	11.3	10.3	6.2	0.12	1224.2
11/21/05 18:00	***	191.6	206.3	8.3	Invalid	6.8	Invalid	533.7
11/21/05 19:00	***	205.3	299.5	12.4	Invalid	1.4	Invalid	1183.1
11/21/05 20:00	Normal	324.8	608.2	6.4	5.2	5.4	0.11	421.7
11/21/05 21:00	Normal	328.2	613.7	7.0	5.8	8.8	0.12	304.0
11/21/05 22:00	Normal	310.9	581.4	7.1	5.9	0.9	0.11	174.9
11/21/05 23:00	Normal	350.5	658.3	6.3	5.2	4.5	0.09	386.2
12/27/05 16:00	Down	Down	Down	Down	Down	Down	Down	Down
12/27/05 17:00	Down	Down	Down	Down	Down	Down	Down	Down
12/27/05 18:00	Down	Down	Down	Down	Down	Down	Down	Down
12/27/05 19:00	Startup	0.0	48.1	19.4	18.9	Down	Down	Down
12/27/05 20:00	Startup	0.0	88.7	19.6	19.2	Down	0.24	120.5
12/27/05 21:00	Startup	0.0	56.3	19.5	19.0	Down	0.14	140.3
12/27/05 22:00	Startup	0.0	56.2	19.5	19.1	Down	0.24	146.0
12/27/05 23:00	Startup	0.0	85.7	19.8	19.4	Down	0.24	113.2
12/28/05 0:00	Startup	0.0	79.6	19.9	19.6	Down	0.13	130.2
12/28/05 1:00	***	0.0	107.3	19.0	18.5	Down	0.09	129.3
12/28/05 2:00	***	32.8	58.9	17.0	16.2	Down	0.10	159.5
12/28/05 3:00	***	121.1	227.8	15.3	14.0	Down	0.29	204.2
12/28/05 4:00	***	150.1	279.1	12.4	12.2	Down	0.13	2153.3
12/28/05 5:00	***	418.4	795.3	4.0	4.3	2.6	0.09	3014.7
12/28/05 6:00	Normal	453.1	857.3	5.7	5.6	25.8	Inval	1498.9
12/28/05 7:00	Normal	441.0	831.6	6.2	5.7	27.1	0.19	334.7
12/28/05 8:00	Normal	407.0	765.9	6.6	5.7	27.4	0.20	342.0
12/28/05 9:00	Normal	436.9	820.2	6.0	7.1	20.8	Inval	333.7
3/14/06 22:00	Down	Down	Down	Down	6.2	26.8	Inval	334.5
3/14/06 23:00	Down	Down	Down	Down	Down	Down	Down	Down
3/15/06 0:00	Down	Down	Down	Down	Down	Down	Down	Down
3/15/06 1:00	Startup	0.4	33.6	20.0	19.3	Down	Down	Down
3/15/06 2:00	Startup	0.4	51.7	20.5	19.8	Down	0.07	65.1
3/15/06 3:00	Startup	0.4	58.5	19.6	18.9	Down	0.03	33.7
3/15/06 4:00	Startup	0.4	70.0	20.0	19.2	Down	0.14	51.2
3/15/06 5:00	Startup	0.4	100.4	17.7	16.9	Down	0.06	104.6
3/15/06 6:00	Startup	0.3	105.9	17.5	16.7	Down	0.19	120.3
3/15/06 7:00	***	0.3	79.7	19.2	18.3	Down	0.21	143.9
3/15/06 8:00	***	110.9	208.8	15.5	14.5	Down	0.17	153.7
3/15/06 9:00	***	271.1	517.9	7.9	6.9	0.5	0.12	156.8
3/15/06 10:00	***	342.1	650.0	5.2	4.2	7.4	0.13	428.9
3/15/06 11:00	Normal	425.7	808.8	5.5	4.4	2.6	0.11	665.5
3/15/06 12:00	Normal	464.8	890.2	4.9	3.8	32.3	0.13	372.4
3/15/06 13:00	Normal	491.8	939.7	4.4	3.5	34.3	0.13	303.2
3/15/06 14:00	Normal	456.5	875.8	4.9	3.8	42.8	0.13	482.3
3/15/06 15:00	Normal	489.7	937.2	4.3	3.4	37.5	0.12	586.7
3/15/06 16:00	Normal	481.3	919.0	4.7	3.7	43.3	0.13	475.1
3/15/06 17:00	Normal	507.5	972.4	5.0	3.8	32.6	0.13	335.6
3/15/06 18:00	Normal	511.3	981.7	4.6	3.6	51.5	0.13	253.9
4/3/06 2:00	Normal	489.2	918.2	5.2	4.1	56.0	0.14	252.1
4/3/06 3:00	Normal	501.2	938.1	5.0	3.9	39.9	0.13	243.3
4/3/06 4:00	Normal	507.0	946.6	5.1	3.9	53.5	0.13	244.2
4/3/06 5:00	Normal	479.0	901.0	5.8	4.5	32.2	0.13	308.4
4/3/06 6:00	Normal	507.7	956.0	5.1	4.0	30.0	0.13	275.7
4/3/06 7:00	Shutdown	288.5	534.4	9.2	8.0	46.1	0.13	263.2
4/3/06 8:00	Down	0.4	Down	21.0	20.3	20.3	0.14	196.7
4/3/06 9:00	Down	0.3	Down	Down	Down	Down	Down	119.2
4/3/06 10:00	Down	0.5	Down	Down	Down	Down	Down	Down
4/3/06 11:00	Down	0.4	Down	Down	Down	Down	Down	Down
4/3/06 12:00	Down	0.4	Down	Down	Down	Down	Down	Down
4/3/06 13:00	Down	0.4	Down	Down	Down	Down	Down	Down
4/3/06 14:00	Startup	0.3	40.1	19.8	19.1	Down	Down	Down
4/3/06 15:00	Startup	0.2	61.6	19.0	18.3	Down	0.11	60.7
4/3/06 16:00	Startup	0.2	57.8	19.1	18.4	Down	0.18	96.6
4/3/06 17:00	Startup	0.3	59.3	19.1	18.2	Down	0.25	62.9
4/3/06 18:00	Startup	0.3	55.8	19.2	18.4	Down	0.22	86.3
4/3/06 19:00	Startup	0.3	85.4	18.9	18.1	Down	0.16	110.5
4/3/06 20:00	***	45.4	82.0	16.5	15.3	Down	0.16	150.1
4/3/06 21:00	***	353.7	673.8	3.5	2.6	Down	0.26	668.5
4/3/06 22:00	Normal	415.2	777.9	5.5	4.4	0.6	0.09	3317.5
4/3/06 23:00	Normal	450.9	843.0	5.2	4.0	33.8	0.14	292.9
4/4/06 0:00	Normal	469.3	876.7	5.1	3.9*	34.2	0.12	343.0
4/4/06 1:00	Normal	431.9	807.1	5.6	4.3	42.4	0.15	311.5
4/4/06 2:00	Normal	427.4	798.5	5.7	4.5	33.4	0.13	293.8
						28.0	0.13	310.7

Source: Data obtained from the U.S. Sugar CEMS

* Startup is defined as ending when the boiler reaches 200,000 lb/hr steam or the first 6 hours of operation, whichever occurs first
Shutdown is defined as beginning when the fuel feed is terminated (1 hour before going down)

*** Refers to a long startup condition based on either the steam production, heat input, oxygen, urea, or emissions data

TABLE 3
SUMMARY OF BUILDING STRUCTURES CONSIDERED IN THE AIR MODELING ANALYSIS

Structure	Height		Length		Width	
	ft	m	ft	m	ft	m
Boiler No. 8 Structures						
Boiler No. 8 Building	98.0	29.9	92.0	28.0	58.8	17.9
Boiler No. 8 ESP	69.0	21.0	69.6	21.2	46.6	14.2
Mill Expansion Buildings						
Electrical Equipment	100.0	30.5	95.6	29.1	27.6	8.4
Support Structure	130.0	39.6	95.6	29.1	76.2	23.2
Dryer Area	100.0	30.5	95.6	29.1	39.0	11.9
Screening & Distribution Towers	150.0	45.7	126.4	38.5	68.7	20.9
Specialty Packaging Facility	40.0	12.2	82.1	25.0	201.6	61.4
Packaging Facility	40.0	12.2	65.0	19.8	280.0	85.3
Warehouse	28.0	8.5	339.7	103.5	289.7	88.3
Electrical & Conditioning Equipment	24.0	7.3	59.7	18.2	52.3	15.9
Bulk Loading	40.0	12.2	84.4	25.7	53.8	16.4
Sugar Silos	136.0	41.5	111.6	34.0	68.1	20.8
Other Mill Buildings						
Pellet Warehouse	46.0	14.0	527.0	160.6	105.0	32.0
WDA	51.0	15.5	55.0	16.8	53.0	16.2
Storage and Safety mechanic	34.8	10.6	58.0	17.7	52.0	15.8
Boiler No. 4 Building	87.5	26.7	78.0	23.8	66.0	20.1
Boiler No. 5&6 Building	56.0	17.1	118.0	36.0	66.0	20.1
Boiler No. 1&2 Building	67.3	20.5	115.0	35.1	103.0	31.4
Power House	34.0	10.4	119.0	36.3	65.0	19.8
C-Tandem	82.0	25.0	209.5	63.9	97.4	29.7
Evaporators	100.0	30.5	186.2	56.8	139.7	42.6
B Mill Building	68.0	20.7	178.0	54.3	81.0	24.7
A Mill Building	69.0	21.0	243.0	74.1	67.0	20.4
Boiling House	93.7	28.6	181.0	55.2	155.0	47.2
Boiler No. 7 ESP	87.5	26.7	55.0	16.8	33.0	10.1
Boiler No. 7 Building	93.0	28.3	83.0	25.3	68.0	20.7
Sugar Warehouse #1	37.0	11.3	390.5	119.0	103.8	31.6
Sugar Warehouse #3	63.0	19.2	122.4	37.3	98.3	30.0
Clarifiers	56.0	17.1	772.3	235.4	144.4	44.0
Central Control Room	20.0	6.1	208.7	63.6	103.3	31.5
Cooling Tower	53.0	16.2	76.5	23.3	52.5	16.0
B_CPVS	100.0	30.5	74.9	22.8	50.4	15.4

TABLE 4
STACK AND OPERATING PARAMETERS USED IN THE BOILER NO. 8 MODELING ANALYSIS, U.S. SUGAR, CLEWISTON MILL

Emission Unit	Model ID	Load	UTM Coordinates [a] East (m)	UTM Coordinates [a] North (m)	Stack Data [b] Height (ft)	Height (m)	Diameter (ft)	Diameter (m)	Operating Data [b] Heat Input (MMBtu/hr)	Temperature (°F)	Temperature (°K)	Gas Flow (acfm)	Velocity (ft/s)	Velocity (m/s)
Maximum Permitted - Crop/Off-Crop Season														
Boiler No. 8	BLR8	100%	506,046.2	2,956,987.3	199	60.7	10.92	3.33	1,185	315	430	434,610	77.3	23.57
Boiler No. 8	BLR8	75%	506,046.2	2,956,987.3	199	60.7	10.92	3.33	889	315	430	325,958	58.0	17.68
Boiler No. 8	BLR8	50%	506,046.2	2,956,987.3	199	60.7	10.92	3.33	593	315	430	217,305	38.7	11.79

[a] Universal transverse coordinates, zone 17.

[b] Stack and operating data based on air construction permit application dated June 2006.

TABLE 5
MAXIMUM SHORT-TERM EMISSIONS FOR BOILER NO. 8, U.S. SUGAR, CLEWISTON MILL

Emission Unit	Model ID	Load	Heat Input (MMBtu/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)
Maximum Permitted - Crop/Off-Crop Season							
Boiler No. 8[a]	BLR8	100%	1,185	29.63	71.10	355.5	3,555.0
Boiler No. 8	BLR8	24-hr	1,077	26.93	64.62	--	--
Boiler No. 8	BLR8	75%	889	22.22	53.33	266.6	2,666.3
Boiler No. 8	BLR8	50%	593	14.82	35.55	177.8	1,777.5

[a] Emissions based on air construction permit application dated June 2006, except for CO.

TABLE 6
MAXIMUM ANNUAL EMISSIONS FOR BOILER NO. 8, U.S. SUGAR, CLEWISTON MILL

Emission Unit	Model ID	PM_{10} (TPY)	SO_2 (TPY)	NO_x (TPY)	CO (TPY)
Boiler No. 8[a]	BLR8	84.6	203.0	473.7	1,285

TPY= tons per year

[a] Emissions based on air construction permit application dated June 2006.

TABLE 7
MAXIMUM IMPACTS PREDICTED FOR COMPARISON TO EPA SIGNIFICANT IMPACT LEVELS

Pollutant	Averaging Time	Emission Rate by Load (lb/hr)			Maximum Concentration[a] by Load ($\mu g/m^3$)			EPA Significant Impact Levels ($\mu g/m^3$)
		Base Load	75% Load	50% Load	Base Load	75% Load	50% Load	
Generic (10 g/s)	Annual	79.365	79.365	79.365	0.9221	1.1019	1.4537	
	High 24-Hour	79.365	79.365	79.365	7.6697	9.3252	11.3699	
	High 8-Hour	79.365	79.365	79.365	9.4277	10.9285	13.1911	
	High 3-Hour	79.365	79.365	79.365	10.4227	12.2276	15.0204	
	High 1-Hour	79.365	79.365	79.365	10.8790	12.8422	16.4112	
SO_2	Annual	46.35	34.76	23.17	0.54	0.48	0.42	1
	High 24-Hour	64.62	48.47	32.31	6.24	5.69	4.63	5
	High 3-Hour	71.10	53.33	35.55	9.34	8.22	6.73	25
PM_{10}	Annual	19.32	14.49	9.66	0.22	0.20	0.18	1
	High 24-Hour	26.93	20.20	13.47	2.60	2.37	1.93	5
NO_2[b]	Annual	108.15	81.11	54.08	0.94	0.84	0.74	1
CO	High 8-Hour	3555.0	2666.3	1777.5	422.3	367.1	295.4	500
	High 1-Hour	3555.0	2666.3	1777.5	487.3	431.4	367.6	2000

[a] Based on the AERMOD model using 5 years of surface and upper air meteorological data from 2001 to 2005 from the NWS station at Palm Beach International Airport and Florida International University in Miami, respectively.

[b] NO_2 concentration is assumed equal to 75 percent of NO_X concentration

TABLE 8
SUMMARY OF SO_2 FACILITIES CONSIDERED FOR INCLUSION IN THE AAQS AND PSD CLASS II AIR MODELING ANALYSES

AIRS Number	Facility	County	UTM Coordinates East (km)	UTM Coordinates North (km)	Relative to Palm Beach Power [a] X (km)	Relative to Palm Beach Power [a] Y (km)	Distance (km)	Direction (deg)	Maximum SO_2 Emissions (TPY)	Q, Emission Threshold [b] (Dist - SIA) x 20	Include in Modeling Analysis?
0990086	Glades Correctional Institute	Palm Beach	523.4	2955.2	17.3	-1.7	17.4	96	98	147.7	NO
0510015	Southern Gardens Citrus	Hendry	487.6	2957.6	-18.5	0.7	18.5	272	173	170.3	YES
na	Glades Electric Cooperative	Hendry	487.1	2957.5	-19.0	0.6	19.0	272	40	180.7	NO
0430008	Atlas-Transoil Inc - South FL Thermal Serv	Hendry	489.2	2966.6	-16.9	9.7	19.5	300	85	189.7	NO
0990332	New Hope Power Partnership (Okeelanta)	Palm Beach	524.1	2940.0	18.0	-16.9	24.7	133	1,999	293.8	YES
0990005	Okeelanta	Palm Beach	525.0	2937.4	18.9	-19.5	27.2	136	51	343.1	NO
0510003	Sugar Cane Growers	Palm Beach	534.9	2953.3	28.8	-3.6	29.0	97	2,555	380.5	YES
0990061	U.S. Sugar - Bryant	Palm Beach	537.8	2969.1	31.7	12.2	34.0	69	2,698	479.3	YES
0990019	Osceola Farms	Palm Beach	544.2	2968.0	38.1	11.1	39.7	74	1,467	593.7	YES
0990016	Atlantic Sugar	Palm Beach	552.9	2945.2	46.8	-11.7	48.2	104	954	764.8	YES
0990349	South Florida WMD–Pump Stn. G-310 S-6	Palm Beach	554.2	2940.5	48.1	-16.4	50.8	109	5	816.4	NO
0850001	FPL - Martin	Martin	543.1	2992.9	37.0	36.0	51.6	46	22,982	832.5	YES
0850102	Indiantown Cogeration	Martin	545.6	2991.5	39.5	34.6	52.5	49	2,629	850.2	YES
0990021	Pratt & Whitney (United Technologies)	Palm Beach	562.0	2960.0	55.9	3.1	56.0	87	1,390	919.7	YES
1110103	CPV Cana, LTD	St. Lucie	550.9	3018.1	44.8	61.2	75.8	36	76	1316.9	NO
0990234	Palm Beach Resource Recovery	Palm Beach	585.8	2960.2	79.7	3.3	79.8	88	1,533	1395.4	NO
0710019	Lee County Resource Recovery	Lee	424.2	2945.7	-81.9	-11.2	82.7	262	163	1453.2	NO
0710000	FPL - Fort Myers [c]	Lee	422.1	2952.9	-84.0	-4.0	84.1	267	22,702	1481.9	YES
0850021	Stuart Contracting	Martin	375.2	3006.8	69.1	49.9	85.2	54	100	1504.7	NO
0990045	Lake Worth Utilities	Palm Beach	592.8	2943.7	86.7	-13.2	87.7	99	7,415	1554.0	NO
0990568	Lake Worth Generating	Palm Beach	592.8	2943.7	86.7	-13.2	87.7	99	54	1554.0	NO
0990042	FPL - Riviera Beach [c]	Palm Beach	594.2	2960.6	88.1	3.7	88.2	88	73,475	1563.6	YES
0550018	TECO-Phillips	Highlands	464.3	3035.4	-41.8	78.5	88.9	332	4,053	1578.7	NO
0990350	South Florida WMD–Pump Stn. S-9	Broward	555.9	2882.2	49.8	-74.7	89.8	146	2	1595.1	NO
0112534	Enron/Deerfield Beach Energy Center	Broward	583.1	2907.9	77.0	-49.0	91.3	122	166	1625.4	NO
0112545	El Paso Broward Energy Center	Broward	583.3	2908.0	77.2	-48.9	91.4	122	87	1627.7	NO
0110120	North Broward Resource Recovery	Broward	583.6	2907.6	77.5	-49.3	91.9	122	896	1637.0	NO
0112515	Enron Pompano Energy Center	Broward	583.7	2905.5	77.6	-51.4	93.1	124	166	1661.6	NO
1110003	Fort Pierce Utilities	St. Lucie	566.8	3036.3	60.7	79.4	99.9	37	1,497	1798.9	NO
0112119	South Broward Resource Recovery	Broward	579.6	2883.3	73.5	-73.6	104.0	135	1,318	1880.3	NO
0110037	FPL - Lauderdale [c]	Broward	580.1	2883.3	74.0	-73.6	104.4	135	47,858	1887.4	YES
0110036	FPL - Port Everglades [c]	Broward	587.4	2885.3	81.3	-71.6	108.3	131	170,215	1966.7	YES
0250020	Titan (Tarmac)	Dade	562.9	2861.7	56.8	-95.2	110.9	149	2,792	2017.1	NO
0250348	Dade Co. Resource Recovery	Dade	564.3	2857.4	58.2	-99.5	115.3	150	857	2105.4	NO
0610029	Vero Beach Power [c]	St. Lucie	567.1	3056.5	61.0	99.6	116.8	31	10,274	2135.9	YES

Note: deg = degrees
km = kilometers
TPY = tons per year

[a] U.S. Sugar Corporation Clewiston Mill East and North Coordinates (km) are 506.1 and 2956.9, respectively.
[b] Based on North Carolina Screening Technique for annual average basis. "Dist" is the distance the facility is located from the project. "SIA" is the significant impact area. The project's 24-hour SO_2 concentrations are assumed significant out to 10 km from the project.
[c] Large source with annual emissions greater than 10,000 TPY located beyond the screening area (84 km) that were included in the inventory.

TABLE 9

DETAILED SUMMARY OF STACK, OPERATING, AND EMISSIONS DATA OF FACILITIES WITH SO_2 EMISSIONS INCLUDED IN THE AAQS AND PSD CLASS II MODELING ANALYSES

AIRS Number	Facility Units	Modeling ID Name	UTM Coordinates East (km)	UTM Coordinates North (km)	Stack and Operating Parameters: Height ft	Height m	Diameter ft	Diameter m	Temperature °F	Temperature K	Velocity ft/s	Velocity m/s	Emission Rate: 3-Hour lb/hr	3-Hour g/s	24-Hour lb/hr	24-Hour g/s	PSD Source (EXP/CON)	Modeled in AAQS	Modeled in Class II
0510003	US Sugar - Clewiston [c]																		
	PSD Baseline (On-crop season only)																		
	Unit 1 PSD Baseline	USSBRL1B	506.2	2,956.9	75.8	23.1	6.1	1.86	160	344	99.0	30.20	-633.8	-79.86	-462.0	-58.21	EXP	No	Yes
	Unit 2 PSD Baseline	USSBLR2B	506.2	2,956.9	75.8	23.1	6.1	1.86	158	343	117.0	35.70	-633.8	-79.86	-462.0	-58.21	EXP	No	Yes
	Unit 3 PSD Baseline	USSBLR3B	506.2	2,956.9	90.0	27.4	7.5	2.29	156	342	48.2	14.70	-383.3	-48.30	-263.5	-33.20	EXP	No	Yes
	East Pellet Plant PSD Baseline	EPELLET	506.1	2,957.0	40.0	12.2	5.0	1.52	165	347	28.0	8.54	-81.7	-10.30	-81.7	-10.30	EXP	No	Yes
	West Pellet Plant PSD Baseline	WPELLET	506.1	2,957.0	51.5	15.7	5.0	1.52	165	347	28.0	8.54	-81.7	-10.30	-81.7	-10.30	EXP	No	Yes
	On-crop season future																		
	Unit 1	USSBRL1N	506.2	2,956.9	213.0	64.9	8.0	2.44	150	339	82.9	25.30	29.8	3.75	29.8	3.75	CON	Yes	Yes
	Unit 2	USSBLR2N	506.2	2,956.9	213.0	64.9	8.0	2.44	150	339	82.9	25.30	26.8	3.38	26.8	3.38	CON	Yes	Yes
	Unit 4	USSBLR4N	506.1	2,956.9	150.0	45.7	8.2	2.50	160	344	88.7	27.00	38.0	4.79	36.0	4.54	CON	Yes	Yes
	Unit 7	USSBLR7N	506.1	2,957.0	225.0	68.6	8.0	2.44	335	441	94.5	28.80	138.0	17.39	125.5	15.81	CON	Yes	Yes
	Unit 8	USSBLR8N	506.0	2,957.0	199.0	60.7	10.9	3.33	315	430	77.1	23.57	71.1	8.96	64.6	8.14	CON	Yes	Yes
	Off-crop season future																		
	Unit 7	USSBLR7F	506.1	2,957.0	225.0	68.6	8.0	2.44	335	441	94.5	28.80	138.0	17.39	125.5	15.81	CON	Yes	Yes
0510015	Southern Gardens Citrus - PSD																		
	Peel Dryers 1-2	SGARDDRY	487.6	2957.6	125.0	38.1	5.7	1.74	109	316	24.4	7.45	21.0	2.65	21.0	2.65	CON	Yes	Yes
	Boilers 1-4	SGARDBLR	487.6	2957.6	55.0	16.8	4.0	1.22	400	478	46.7	14.22	5.8	0.73	5.8	0.73	CON	Yes	Yes
0990086	New Hope Power Partnership (Okeelanta)																		
	Okeelanta Power Blrs 1,2,3 [b]	OKCOGENF	524.1	2,940.0	199.0	60.7	10.0	3.05	352	451	63.6	19.39	456.3	57.5	456.3	57.5	CON	Yes	Yes
0990016	Sugar Cane Growers [c]																		
	BOILER #1 Future On-crop season	SCG1N	534.9	2,953.3	150.0	45.7	7.0	2.13	150	339	58.7	17.90	603.1	75.99	603.1	75.99	CON	Yes	Yes
	BOILER #2 Future On-crop season	SCG2N	534.9	2,953.3	150.0	45.7	7.0	2.13	150	339	70.2	21.41	603.1	75.99	603.1	75.99	CON	Yes	Yes
	BOILER #3 Future On-crop season	SCG3N	534.9	2,953.3	180.0	54.9	6.9	2.11	150	339	54.9	16.74	412.8	52.01	412.8	52.01	CON	No	No
	BOILER #4 Future On-crop season	SCG4N	534.9	2,953.3	180.0	54.9	9.4	2.88	150	339	63.3	19.28	1031.9	130.02	1031.9	130.02	CON	No	No
	BOILER #5Future On-crop season	SCG5N	534.9	2,953.3	150.0	45.7	7.0	2.13	150	339	92.2	28.10	792.8	99.89	792.8	99.89	CON	No	No
	BOILER #8 Future On-crop season	SCG8N	534.9	2,953.3	155.0	47.2	9.5	2.90	150	339	49.7	15.16	394.4	49.69	394.4	49.69	CON	No	No
	Note: Only SCBLR1N and SCBLR2N were modeleded due to 14 TPD limit																		
	BOILER #1 Future Off-crop season	SCG1F	534.9	2,953.3	150.0	45.7	7.0	2.13	150	339	58.7	17.90	355.6	44.80	255.6	32.20	CON	Yes	Yes
	BOILER #4 Future Off-crop season	SCG4F	534.9	2,953.3	180.0	54.9	9.4	2.88	150	339	63.3	19.28	607.9	76.60	34.1	4.30	CON	Yes	Yes
	BOILER #1 PSD Baseline Off-crop season	SCG1BF	534.9	2,953.3	79.1	24.1	5.5	1.68	395	475	52.3	15.94	-236.5	-29.80	-236.5	-29.80	EXP	No	Yes
	BOILER #2 PSD Baseline Off-crop season	SCG2BF	534.9	2,953.3	79.1	24.1	5.5	1.68	405	480	58.7	17.88	-236.5	-29.80	-236.5	-29.80	EXP	No	Yes
	BOILER #3 PSD Baseline Off-crop season	SCG3BF	534.9	2,953.3	79.1	24.1	5.5	1.68	470	517	54.1	16.50	-177.8	-22.40	-177.8	-22.40	EXP	No	Yes
	BOILER #4 PSD Baseline Off-crop season	SCG4BF	534.9	2,953.3	86.0	26.2	5.3	1.62	149	338	32.4	9.88	-205.6	-25.90	-205.6	-25.90	EXP	No	Yes
	BOILER #5 PSD Baseline Off-crop season	SCG5BF	534.9	2,953.3	79.1	24.1	6.7	2.03	490	528	93.2	28.42	-315.1	-39.70	-315.1	-39.70	EXP	No	Yes
	BOILER #6 PSD Baseline Off-crop season	SCG6BF	534.9	2,953.3	40.0	12.2	5.0	1.52	630	605	21.4	6.53	-147.6	-18.60	-147.6	-18.60	EXP	No	Yes
	BOILER #7 PSD Baseline Off-crop season	SCG7BF	534.9	2,953.3	40.0	12.2	5.0	1.52	630	606	56.4	17.20	-354.0	-44.60	-354.0	-44.60	EXP	No	Yes
	BOILER #1 PSD Baseline On-crop season	SCG1BN	534.9	2,953.3	79.1	24.1	5.5	1.68	395	475	52.3	15.94	-150.0	-18.90	-150.0	-18.90	EXP	No	Yes

TABLE 9
DETAILED SUMMARY OF STACK, OPERATING, AND EMISSIONS DATA OF FACILITIES WITH SO_2 EMISSIONS INCLUDED IN THE AAQS AND PSD CLASS II MODELING ANALYSES

AIRS Number	Facility Units	Modeling ID Name	UTM Coordinates		Stack and Operating Parameters								Emission Rate				PSD Source	Modeled in	
			East	North	Height		Diameter		Temperature		Velocity		3-Hour		24-Hour				
			(km)	(km)	ft	m	ft	m	°F	K	ft/s	m/s	lb/hr	g/s	lb/hr	g/s	(EXP/CON)	AAQS	Class II
	BOILER #2 PSD Baseline On-crop season	SCG2BN	534.9	2,953.3	79.1	24.1	5.5	1.68	405	480	58.7	17.88	-150.0	-18.90	-150.0	-18.90	EXP	No	Yes
	BOILER #3 PSD Baseline On-crop season	SCG3BN	534.9	2,953.3	79.1	24.1	5.5	1.68	470	517	54.1	16.50	-112.7	-14.20	-112.7	-14.20	EXP	No	Yes
	BOILER #4 PSD Baseline On-crop season	SCG4BN	534.9	2,953.3	86.0	26.2	5.3	1.62	149	338	32.4	9.88	-205.6	-25.90	-205.6	-25.90	EXP	No	Yes
	BOILER #5 PSD Baseline On-crop season	SCG5BN	534.9	2,953.3	79.1	24.1	6.7	2.03	490	528	93.2	28.42	0.0	0.00	0.0	0.00	EXP	No	Yes
	BOILER #6 PSD Baseline On-crop season	SCG6BN	534.9	2,953.3	40.0	12.2	5.0	1.52	630	605	21.4	6.53	0.0	0.00	0.0	0.00	EXP	No	Yes
	BOILER #7 PSD Baseline On-crop season	SCG7BN	534.9	2,953.3	40.0	12.2	5.0	1.52	630	606	56.4	17.20	-121.4	-15.30	-121.4	-15.30	EXP	No	Yes
0990061	US Sugar-Bryant [a]																		
	Boiler No 5	USSBRY5	537.8	2,969.1	150.0	45.7	9.5	2.90	161	345	37.7	11.49	613.1	77.25	613.1	77.25	CON	Yes	No
	Boilers No 1,2&3	USBRY123	537.8	2,969.1	65.0	19.8	5.4	1.64	156	342	119.4	36.40	1585.0	199.71	1585.0	199.71	CON	Yes	No
	Diesel Electric Generator Pt 07	USSBRY07	537.8	2,969.1	28.0	8.5	1.2	0.37	475	519	40.0	14.76	28.0	8.41	66.7	8.41	CON	Yes	Yes
	Diesel Electric Generator Pt 08	USSBRY08	537.8	2,969.1	28.0	8.5	1.2	0.37	475	519	42.0	12.19	29.0	8.90	70.6	8.90	CON	Yes	Yes
	Unit 1 PSD Baseline	USSBRY1B	537.8	2,969.1	65.0	19.8	5.5	1.68	430	494	145.3	44.30	-289.7	-36.50	-289.7	-36.50	EXP	No	Yes
	Unit 2&3 PSD Baseline	USBRY23B	537.8	2,969.1	65.0	19.8	5.5	1.68	160	344	124.3	37.90	-579.4	-73.00	-579.4	-73.00	EXP	No	Yes
0990019	Osceola Farms PSD Baseline [a]																		
	Unit 2	OSBLR2	544.2	2,968.0	90.0	27.4	5.0	1.52	154	341	51.9	15.82	135.9	17.12	46.6	5.87	CON	Yes	Yes
	Unit 3	OSBLR3	544.2	2,968.0	90.0	27.4	6.3	1.91	156	342	55.3	16.86	244.0	30.74	50.7	6.39	CON	Yes	Yes
	Unit 4	OSBLR4	544.2	2,968.0	90.0	27.4	6.0	1.83	154	341	54.7	16.67	100.8	12.70	99.3	12.51	CON	Yes	Yes
	Unit 5a	OSBLR5A	544.2	2,968.0	90.0	27.4	5.0	1.52	154	341	54.1	16.48	50.2	6.33	49.7	6.26	CON	Yes	Yes
	Unit 5b	OSBLR5B	544.2	2,968.0	90.0	27.4	5.0	1.52	154	341	54.1	16.48	50.2	6.33	49.7	6.26	CON	Yes	Yes
	Unit 6	OSBLR6	544.2	2,968.0	90.0	27.4	6.2	1.88	154	341	59.7	18.19	265.0	33.39	16.5	2.08	CON	Yes	Yes
	Unit 1 PSD Baseline	OSBLR1B	544.2	2,968.0	72.2	22.0	5.0	1.52	156	342	59.6	18.18	-40.2	-5.07	-40.2	-5.07	EXP	No	Yes
	Unit 2 PSD Baseline	OSBLR2B	544.2	2,968.0	72.2	22.0	5.0	1.52	154	341	59.4	18.10	-129.5	-16.32	-129.5	-16.32	EXP	No	Yes
	Unit 3 PSD Baseline	OSBLR3B	544.2	2,968.0	72.2	22.0	6.3	1.93	154	341	47.6	14.50	-57.6	-7.26	-57.6	-7.26	EXP	No	Yes
	Unit 4 PSD Baseline	OSBLR4B	544.2	2,968.0	72.2	22.0	6.0	1.83	154	341	61.7	18.80	-108.0	-13.61	-108.0	-13.61	EXP	No	Yes
0990016	Atlantic Sugar [b]																		
	Unit 1	ATLSUG1	552.9	2,945.2	90.0	27.4	6.0	1.83	163	346	59.0	17.97	129.2	16.28	129.2	16.28	CON	Yes	Yes
	Unit 2	ATLSUG2	552.9	2,945.2	90.0	27.4	6.0	1.83	170	350	76.6	23.36	129.2	16.28	129.2	16.28	CON	Yes	Yes
	Unit 3	ATLSUG3	552.9	2,945.2	90.0	27.4	6.0	1.83	170	350	70.7	21.56	127.1	16.02	127.1	16.02	CON	Yes	Yes
	Unit 4	ATLSUG4	552.9	2,945.2	90.0	27.4	6.0	1.83	160	344	82.5	25.16	128.7	16.21	128.7	16.21	CON	Yes	Yes
	Unit 5 PSD [b]	ATLSUG5	552.9	2,945.2	90.0	27.4	5.5	1.68	151	339	63.1	19.24	66.7	8.41	63.8	8.04	CON	Yes	Yes
	Unit 1 PSD Baseline	ATLSUG1B	552.9	2,945.2	62.0	18.9	6.3	1.92	451	506	41.7	12.70	-136.8	-17.24	-136.8	-17.24	EXP	No	Yes
	Unit 2 PSD Baseline	ATLSUG2B	552.9	2,945.2	62.0	18.9	6.3	1.92	460	511	35.8	10.90	-178.6	-22.50	-178.6	-22.50	EXP	No	Yes
	Unit 3 PSD Baseline	ATLSUG3B	552.9	2,945.2	71.8	21.9	6.0	1.83	480	522	57.4	17.50	-134.0	-16.88	-134.0	-16.88	EXP	No	Yes
	Unit 4 PSD Baseline	ATLSUG4B	552.9	2,945.2	60.0	18.3	6.0	1.83	160	344	49.2	15.00	-85.4	-10.76	-85.4	-10.76	EXP	No	Yes
990021	Pratt & Whitney (United Technologies)																		
	Heater	PRATARCH	562.0	2960.0	50.0	15.2	3.0	0.91	1000	811	471.6	143.73	111.0	13.99	111.0	13.99	CON	No	No
	Boiler BO-12, -1, -2, -14, -3	PRATBO12	562.0	2,960.0	15.0	4.6	2.5	0.76	500	533	22.7	6.92	0.1	0.012	0.1	0.012	CON	No	No
0850001	FPL Martin																		
	Units 1&2	MART12	543.1	2,992.9	499.0	152.1	26.2	7.99	298	421	69.0	21.03	13839.6	1743.79	13839.6	1743.79	NO	Yes	No
	Units 3&4 PSD	MART34	543.1	2,992.9	213.0	64.9	20.0	6.10	280	411	62.0	18.90	3733.3	470.40	3733.3	470.40	CON	Yes	Yes

TABLE 9
DETAILED SUMMARY OF STACK, OPERATING, AND EMISSIONS DATA OF FACILITIES WITH SO_2 EMISSIONS INCLUDED IN THE AAQS AND PSD CLASS II MODELING ANALYSES

AIRS Number	Facility Units	Modeling ID Name	UTM Coordinates East (km)	UTM Coordinates North (km)	Height ft	Height m	Diameter ft	Diameter m	Temperature °F	Temperature K	Velocity ft/s	Velocity m/s	Emission Rate 3-Hour lb/hr	Emission Rate 3-Hour g/s	Emission Rate 24-Hour lb/hr	Emission Rate 24-Hour g/s	PSD Source (EXP/CON)	Modeled in AAQS	Modeled in Class II
	Aux Blr PSD	MARTAUX	543.1	2,992.9	60.0	18.3	3.6	1.10	504	535	50.0	15.24	102.4	12.90	102.4	12.90	CON	Yes	Yes
	Diesel Gens PSD	MARTGEN	543.1	2,992.9	25.0	7.6	1.0	0.30	955	786	130.0	39.62	4.0	0.51	4.0	0.51	CON	Yes	Yes
	Unit 8	MART8OIL	543.1	2,992.9	120.0	36.6	19.0	5.79	296	420	73.5	22.40	412.4	51.96	412.4	51.96	CON	Yes	Yes
0850102	Indiantown Cogemation LP - Indiantown Plant PSD																		
	Polverized Coal Main Boiler	INDTOWN1	545.6	2,990.7	495.0	150.9	16.0	4.88	140	333	93.2	30.50	582.0	73.30	581.7	73.30	CON	Yes	Yes
	Auxiliary and Temporary Boilers	INDTOWN3	545.6	2,990.7	210.0	64.0	5.0	1.52	350	450	87.6	26.70	18.0	2.30	18.3	2.30	CON	Yes	Yes
0110037	FPL - Lauderdale																		
	CTs 1-4 PSD	LAUDU45	580.1	2883.3	150.0	45.7	18.0	5.49	330	439	47.9	14.60	2152.0	271.15	2152.0	271.15	CON	Yes	Yes
	4&5 PSD Baseline	FTLAU45B	580.1	2883.3	151.0	46.0	14.0	4.27	300	422	48.0	14.63	-3627.0	-457.00	-3627.0	-457.00	EXP	No	Yes
0710000	FPL Fort Myers																		
	Unit 1 PSD	FMU1	422.1	2,952.9	301.2	91.8	9.5	2.90	300	422	98.1	29.90	-4646.8	-585.50	-4646.8	-585.50	EXP	No	Yes
	Unit 2 PSD	FMU2	422.1	2,952.9	397.6	121.2	18.1	5.52	275	408	63.0	19.20	-10587.3	-1334	-10587.3	-1334.0	EXP	No	Yes
	HRSGs 1 - 6	FMYHR1_6	422.1	2,952.9	125.0	38.1	19.0	5.79	220	378	46.6	14.2	30.6	3.86	30.6	3.9	CON	Yes	Yes
0990568	Lake Worth Utilities																		
	Unit 3, S-3	LAKWTHU3	592.8	2,943.7	112.9	34.4	7.0	2.13	293	418	51.5	15.70	799.2	100.70	799.2	100.70	NO	Yes	No
	Unit 4, S-4	LAKWTHU4	592.8	2,943.7	115.2	35.1	7.5	2.29	293	418	55.8	17.00	1030.6	129.85	1030.6	129.85	NO	Yes	No
	Unit 5, S-5	LAKWTHU5	592.8	2,943.7	75.1	22.9	10.0	3.05	406	481	91.2	27.80	114.0	14.37	114.0	14.37	CON	Yes	Yes
0990042	FPL Riviera[c]																		
	Units 3&4 at 2.5%s fuel oil	RIVU34	594.2	2,960.6	297.9	90.8	16.0	4.88	263	402	62.0	18.90	16775.0	2113.65	16775.0	2113.65	NO	Yes	No
0610029	Vero Beach Power[c]																		
	Unit 1	VERBU1	567.1	3056.5	200.0	60.96	3.5	1.07	327	437	106.4	32.42	228.3	28.77	228.3	28.77	NO	Yes	No
	Unit 2	VERBU2	567.1	3056.5	200.0	60.96	3.5	1.07	322	434	123.3	37.57	668.3	84.21	668.3	84.21	NO	Yes	No
	Unit 3	VERBU3	567.1	3056.5	200.0	60.96	6.0	1.83	333	440	65.4	19.93	1127.5	142.07	1127.5	142.07	NO	Yes	No
	Unit 4	VERBU4	567.1	3056.5	200.0	60.96	7.0	2.13	306	425	79.9	24.36	548.0	69.05	548.0	69.05	NO	Yes	No
	Unit 5 Simple Cycle CT	VERBU5	567.1	3056.5	125.0	38.1	11.0	3.35	290	416	64.2	19.56	123.0	15.50	123.0	15.50	CON	Yes	Yes
0110036	FPL Port Everglades[c]																		
	Units 1&2 at 2.5%s fuel oil	PTEVU12	587.4	2885.3	342.8	104.5	14.0	4.27	289	415.9	87.7	26.7	12650	1593.9	12650	1593.9	NO	Yes	No
	Units 3&4 at 2.5%s fuel oil	PTEVU34	587.4	2885.3	342.8	104.5	18.1	5.52	287	414.8	78.3	23.9	22000	2772.0	22000	2772.0	NO	Yes	No
	GT 1-12 (0.5% fuel oil)	PTEVGTS	587.4	2885.3	44.0	13.4	15.6	4.75	860	733.2	93.3	28.4	4212	530.7	4212	530.7	NO	Yes	No

[a] Facilities or sources within facilities that operate only during the October 1 through April 30 crop season.

[b] Sugar mill sources that operate all year.

[c] Represents worst case emissions for May 1 through September 31 off-crop season operation, and October 1-April 30 for on-crop season.

TABLE 10
MAXIMUM PREDICTED SO_2 IMPACTS DUE TO THE MODELED SOURCES FOR THE AAQS SCREENING ANALYSIS

		Receptor Location				
	Concentration[a]	UTM Coordinates (m)		Local Coordinates (m) [b]		Time Period
Averaging Time	(μg/m³)	East	North	x	y	(YYMMDDHH)
Annual, Highest	7.68	505,430	2,956,850	-698	-86	01123124
	6.87	505,430	2,956,950	-698	14	02123124
	6.34	505,630	2,957,450	-498	514	03123124
	7.13	505,430	2,956,850	-698	-86	04123124
	6.10	505,430	2,956,850	-698	-86	05123124
24-Hour, HSH	33.1	505,330	2,956,750	-798	-186	01050224
	29.2	505,700	2,957,294	-428	358	02111024
	30.8	505,700	2,957,392	-428	456	03050924
	29.1	505,530	2,957,550	-598	614	04050124
	29.6	505,330	2,956,850	-798	-86	05120724
3-Hour, HSH	65.3	509,630	2,952,950	3,502	-3,986	01073021
	67.0	510,130	2,956,450	4,002	-486	02102221
	74.9	510,130	2,958,950	4,002	2,014	03051803
	62.5	505,700	2,957,392	-428	456	04052618
	66.9	503,630	2,954,450	-2,498	-2,486	05112521

Note: YYMMDDHH = Year, Month, Day, Hour Ending
HSH= highest, second-highest
UTM = Universal Transverse Mercator: Zone 17, NAD27

[a] Based on the AERMOD model using 5 years of surface and upper air meteorological data from 2001 to 2005 from the NWS station at Palm Beach International Airport and Florida International University in Miami, respectively

[b] Relative to Boiler No. 4 stack location.

TABLE 11
MAXIMUM PREDICTED SO_2 IMPACTS
FOR COMPARISON TO AAQS REFINED ANALYSES

Averaging Time	Concentration (μg/m³) Total (C= A + B)	Modeled [a] (A)	Background [c] (B)	UTM Coordinates (m) East	North	Time Period (YYMMDDHH)	Florida AAQS (μg/m³)
Annual, Highest	10.7	7.68	3	505,430	2,956,850	01123124	60
24-Hour, HSH	38.1	33.1	5	505,330	2,956,750	01050224	260
3-Hour, HSH	87.9	74.9	13	510,130	2,956,450	02102221	1,300

Note: YYMMDDHH = Year, Month, Day, Hour Ending
HSH= highest, second-highest
UTM = Universal Transverse Mercator: Zone 17, NAD27

[a] Based on the AERMOD model using 5 years of surface and upper air meteorological data from 2001 to 2005 from the NWS station at Palm Beach International Airport and Florida International University in Miami, respectively.

[c] Based on monitoring data (see Section 3.0); highest annual and second-highest 24-hour average concentrations.

TABLE 12
MAXIMUM PREDICTED SO_2 IMPACTS DUE TO THE MODELED SOURCES
FOR THE PSD CLASS II INCREMENT CONSUMPTION SCREENING ANALYSIS

Averaging Time	Concentration[a] (μg/m^3)	Receptor Location: UTM Coordinates (m) East	North	Local Coordinates (m)[b] x	y	Time Period (YYMMDDHH)
Annual, Highest	0.00	NA	NA	NA	NA	01123124
	0.00	NA	NA	NA	NA	02123124
	0.00	NA	NA	NA	NA	03123124
	0.00	NA	NA	NA	NA	04123124
	0.00	NA	NA	NA	NA	05123124
24-Hour, HSH	9.0	505,230	2,956,650	-898	-286	01050224
	7.2	505,230	2,956,650	-898	-286	02092924
	7.5	505,530	2,956,650	-598	-286	03091424
	8.4	505,330	2,956,750	-798	-186	04092124
	7.1	505,430	2,957,350	-698	414	05092124
3-Hour, HSH	16.0	505,530	2,956,950	-598	14	01072812
	38.5	510,130	2,956,950	4,002	14	02100603
	19.5	510,130	2,952,950	4,002	-3,986	03091024
	16.0	505,530	2,957,050	-598	114	04071012
	25.5	510,130	2,960,950	4,002	4,014	05120321

Note: YYMMDDHH = Year, Month, Day, Hour Ending
HSH= highest, second-highest
UTM = Universal Transverse Mercator: Zone 17, NAD27
NA= not applicable. PSD increment consumption is less than 0.0 ug/m^3.

[a] Based on the AERMOD model using 5 years of surface and upper air meteorological data from 2001 to 2005 from the NWS station at Palm Beach International Airport and Florida International University in Miami, respectively.
[b] Relative to Boiler No. 4 stack location.

TABLE 13
MAXIMUM PREDICTED SO_2 IMPACTS
FOR COMPARISON TO THE PSD CLASS II INCREMENT, REFINED ANALYSES

Averaging Time	Concentration[a] (µg/m³)	UTM Coordinates (m)		Time Period (YYMMDDHH)	PSD Class II Increment (µg/m³)
		East	North		
Annual, Highest	0.0	NA	NA	NA	20
24-Hour, HSH	9.0	505,230	2,956,650	01050224	91
3-Hour, HSH	38.5	510,130	2,952,950	03091024	512

Note: YYMMDDHH = Year, Month, Day, Hour Ending
HSH= highest, second-highest
UTM = Universal Transverse Mercator: Zone 17, NAD27

[a] Based on the AERMOD model using 5 years of surface and upper air meteorological data from 2001 to 2005 from the NWS station at Palm Beach International Airport and Florida International University in Miami, respectively.

TABLE 14
MAXIMUM IMPACTS PREDICTED FOR COMPARISON TO THE PSD CLASS I SIGNIFICANT IMPACT LEVELS AT THE EVERGLADES NATIONAL PARK

Pollutant	Averaging Time	Concentration[a] (μg/m³)			PSD Class I Significant Impact Level (μg/m³)
		2001	2002	2003	
SO_2[b]	Annual	0.002	0.003	0.003	0.1
	24-Hour High	0.067	0.080	0.063	0.2
	3-Hour High	0.209	0.191	0.306	1.0
NO_2[c]	Annual	0.002	0.002	0.003	0.1
PM_{10}[d]	Annual	0.001	0.002	0.001	0.2
	24-Hour High	0.034	0.034	0.029	0.3

[a] Based on the CALPUFF model using 3 years of 4-km CALMET domain for 2001, 2002, and 2003

[b] Based on maximum 1-hour emission rate of 71.1 lb/hr.

[c] Based on annual emission rate of 473.7 TPY.

[d] Based on maximum 24-hour emission rate of 26.93 lb/hr.

FIGURES

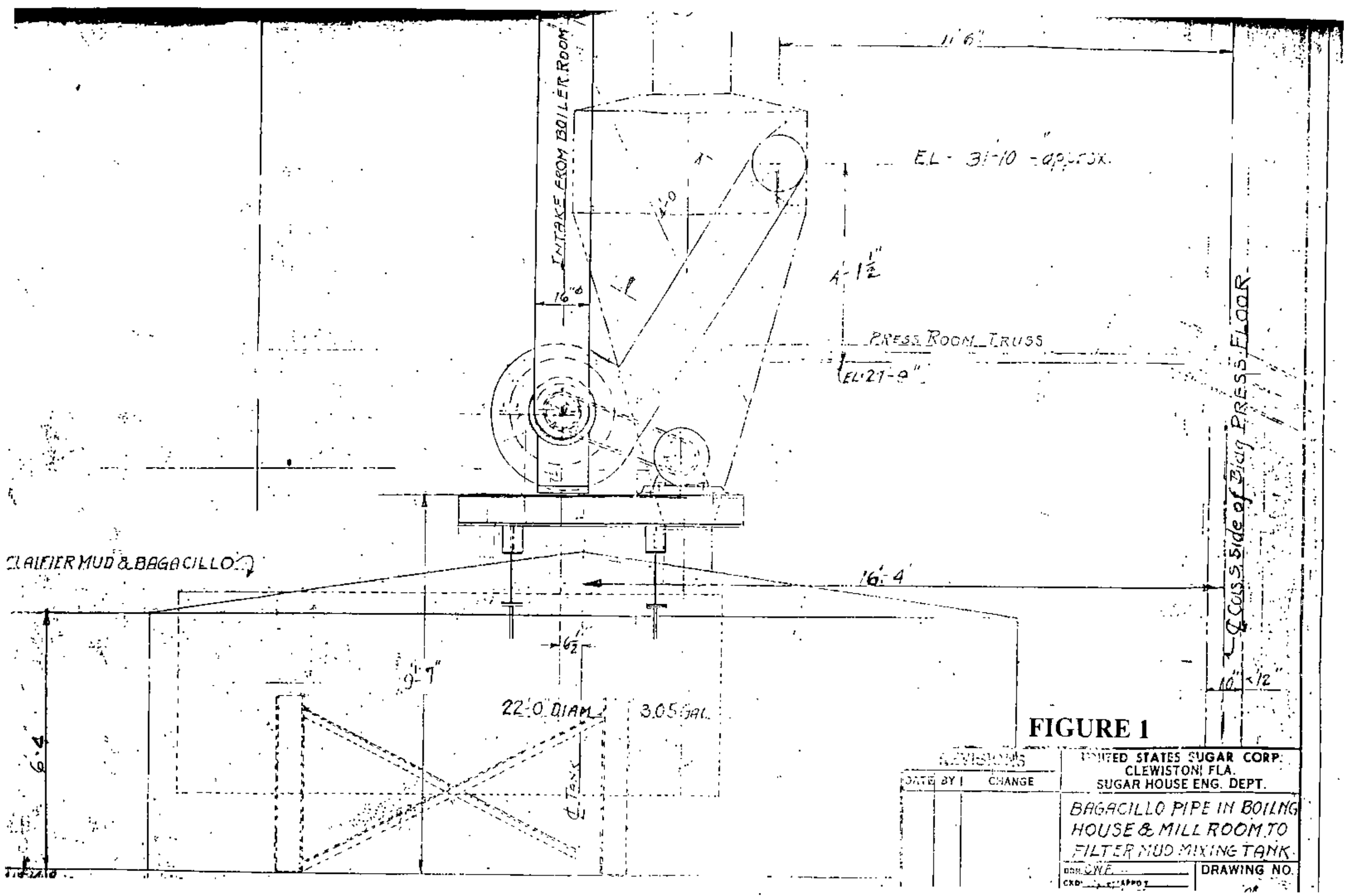
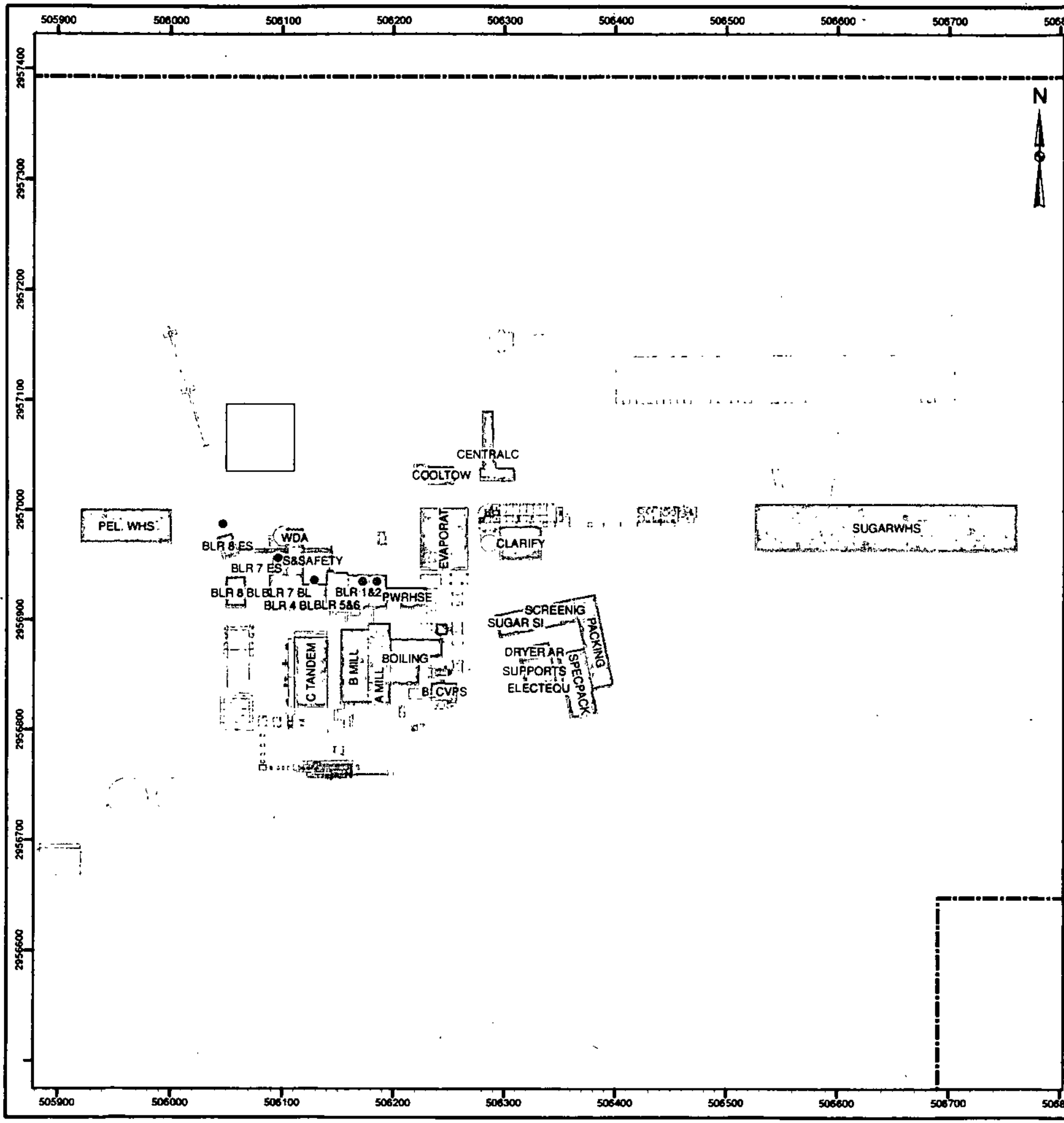

INTAKE FROM BOILER ROOM
11'6"
EL - 31'-10" approx.
4'-1½"
PRESS ROOM TRUSS
EL 27'-9"
16"ø
CLAIFIER MUD & BAGACILLO
16'-4"
9'-7"
6½"
22'-0" DIAM
6'-4"
10"
12"
℄ COLS. Side of Bldg PRESS FLOOR
℄ TANK
REVISIONS
DATE BY CHANGE
UNITED STATES SUGAR CORP.
CLEWISTON FLA.
SUGAR HOUSE ENG. DEPT.
BAGACILLO PIPE IN BOILING HOUSE & MILL ROOM TO FILTER MUD MIXING TANK
DRAWING NO.

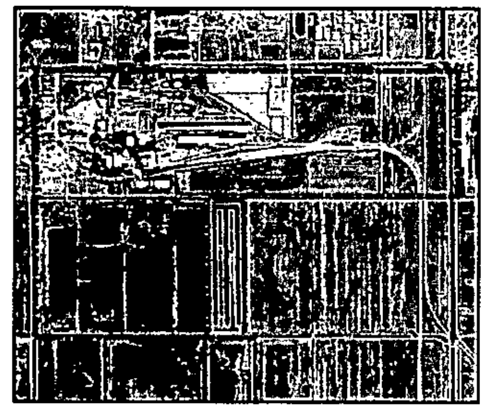
FIGURE 1



LEGEND

- ● Point Source
- —— Area Source
- Buildings Used in Downwash
- Property Boundary

PROPERTY BOUNDARY



REFERENCE

Projection: Transverse Mercator Datum: NAD 27 Coordinate System UTM Zone 17

100 0 100 Meters

PROJECT

U.S. Sugar Corporation
Clewiston Mill

TITLE

Source and Building Locations

Golder Associates Gainesville, Florida

PROJECT No			SCALE AS SHOWN	REV 0
DESIGN	AB	17 Oct 2006		
GIS	AB	17 Oct 2006		
CHECK	SM	17 Oct 2006		
REVIEW	CB	17 Oct 2006		

FIGURE 2

Jeb Bush
Governor

Department of Environmental Protection

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

Colleen M. Castille
Secretary

June 5, 2006

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. William A. Raiola, Vice President of Sugar Processing Operations
U.S. Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, Florida 33440

Re: **Request for Additional Information**
Project Nos. 0510003-0031-AC and 0510003-032-AV
Clewiston Sugar Mill and Refinery / Bryant Sugar Mill
Title V Renewal Projects

Dear Raiola:

The Department is currently processing your application for a permit to renew the Title V air operation permits for the Clewiston Sugar Mill and Refinery and the Bryant Sugar Mill. The application is incomplete. In order to continue processing your application, the Department will need the additional information requested below. Should your response to any of the items below require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

1. Please review "Attachment A – Summary of CAM Plans Proposed by Applicant" of this request for accuracy. The following questions refer to this attachment and the CAM Plans.

   a. Explain why the proposed monitoring values were reduced by 90%.

   b. Explain why some of the proposed indicator ranges are so much lower than the annual averages identified in the application. (i.e., Clewiston Boilers 1, 2 and 4, and Bryant Boilers 1 and 5. etc.)

   c. Provide a technical justification for reducing the monitoring frequency from 4 times/hour for units with potential emissions greater than 100 tons per yea (i.e., units operate under relatively steady operational loads; control equipment parameters are "dialed-in" and only reset for large swings in operation; proposed monitoring frequency will be increased from current monitoring frequency; unit has shown relatively low emissions for proposed indicator range; etc.). Explain any difficulties with continuously monitoring the total secondary power input to the ESP for Clewiston Boiler 7.

   d. Clewiston Boiler 7 and 8 have wet cyclones as pre-control devices prior to the ESP. Although pressure drop was an important parameter in selecting and designing the wet cyclones, it is not a controllable parameter and is dependent on boiler load/flue gas exhaust rate. However, the water flow rate to the wet cyclones is a controllable parameter and monitoring for a minimum flow rate will ensure proper operation. Please identify the minimum operational flow rate (CAM indicator range) for these devices.

   e. Although Boiler 8 is subject to a NESHAP promulgated after 11/15/90, it is necessary to establish a CAM Plan for the PM BACT standard. However, these monitoring requirements can be the same because the emissions standards and averaging period are identical. Please comment.

   f. As was previously discussed, the Department identified Clewiston Boilers 4, 7 and 8 as possibly being subject to CAM Plan requirements for SO_2 emissions because these units have a specific SO_2 emissions standard. Also as discussed, the Department reviewed SO_2 emissions data and control options for the Clewiston Boilers (some wet controls) and the Okeelanta Cogeneration Boilers (dry controls). Based on our conversation and available information, the following is a summary of this review:

   "For the Clewiston Mill, bagasse typically contains 0.08% to 0.24% with an average of approximately 0.1% sulfur by weight on a dry basis. Based on a heating value of 7200 Btu per dry lb of bagasse, this is equivalent to

SENDER: *COMPLETE THIS SECTION*

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

1. Article Addressed to:

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

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery 6-8-6

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

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

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number
(Transfer from service label) 7000 1670 0013 3110 1533

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

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

7000 1670 0013 3110 1533

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

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

PS Form 3800, May 2000 See Reverse for Instructions estimated uncontrolled emissions of approximately 0.22 to 0.66 lb SO_2 per MMBtu. However, stack test data for these units show actual SO_2 emissions ranging from 0.01 to 0.06 lb/MMBtu. This represents estimated reductions ranging from 40% to 90%.

The sugar industry typically uses surface water from ponds for wet scrubber and wet cyclone water. The applicant indicates that the typical pH of the pond water is 6.8. No chemicals are added to treat and control the pH levels of the scrubber water, which is used and then discharged back into the pond. According to the industry, the mechanism providing the reduction is adsorption of the SO_2 onto ash particles generated from bagasse combustion, which is then removed by the particulate matter control device.

To evaluate this mechanism, data from the Okeelanta Cogeneration Boilers were reviewed. These units are spreader-stoker boilers similar in size to the Clewiston Boilers (760 MMBtu per hour) and fire roughly a 50%-50% blend of bagasse and wood chips as the primary fuel. However, water is not used in the particulate control device. Instead, particulate matter is removed with dry multi-clones followed by a dry electrostatic precipitator (ESP). For the Okeelanta Mill, the important parameters are:

- Bagasse: 3600 Btu/lb, wet; 50% moisture; and an average sulfur content of 0.03% by weight
- Wood Chips: 4500 Btu/lb, wet; 40% moisture; and an average sulfur content of 0.07% by weight

Assuming a 50%-50% biomass blend by weight provides a fuel blend with an average heating value of 7350 MMBtu/lb and an average sulfur content of 0.05% sulfur by weight. This is equivalent to an uncontrolled emission rate of approximately 0.135 lb SO_2 per MMBtu. However, the cogeneration boilers are equipped with monitors to continuously measure and record SO_2 emissions. Based on CEMS data collected in 2000 for the cogeneration boilers, the average annual SO_2 emission rate for these units was approximately 0.03 lb/MMBtu. This represents an estimated reduction of approximately 78%, which tends to validate that the SO_2 removal mechanism as adsorption onto ash particles with removal by the particulate matter control device.

This information supports the contention that SO_2 emissions are not being removed as a result of the "wet" scrubbing process. Nevertheless, the conclusion is that a properly functioning particulate matter control device is necessary to achieve the SO_2 emission standards. Therefore, the Department intends to establish the same CAM monitoring program as identified for particulate matter for Clewiston Boilers 4, 7 and 8."

Please correct any inaccuracies and comment.

g. For the granular carbon regenerative furnace (GCRF), Permit No. PSD-FL-272 specified a particulate matter emission standard of 0.7 lb/hour and a design control efficiency of 97%. Based on these parameters, the uncontrolled emission rate would be 102 tons/year. The permit specifies that the venturi scrubber shall be designed for a pressure drop of between 20 to 30 inches of water column and the wet tray scrubber shall be designed for a pressure drop of between 3 to 5 inches of water column. The permit requires these parameters to be monitored once per 8-hour shift. Please provide a CAM Plan for this control device. What is the "capacity" of this unit?

2. Based on the revisions to NSPS Subpart Kb, do you want to consolidate all fuel storage tanks into a single emissions unit to simplify reporting for the Annual Operating Report? If so, please identify the tanks, identification numbers, storage volume, and materials stored.

3. White Sugar Dryer 2 (EU-029) has not yet conducted a satisfactory compliance test. Do you want to include this unit in the Title V renewal or proceed without it? If included, please submit a compliance plan for conducting the test and submitting the test report. (Once satisfied, the requirements of the compliance plan will become obsolete.)

4. The PSD permit for Boiler 8 was recently modified (Project 0510003-032-AC) and updated for the NESHAP revisions. Please submit only the revised Title application pages for this unit.

5. The Department's South District Office issued Permit No. 0510003-033-AC to install a new lime silo. If constructed, please submit the revised Title V application pages for this new unit. If not yet constructed, you may submit the revised Title V application pages for this new unit with a compliance plan. For minor units such as this, the compliance plan would likely cover any notification and initial testing requirements. (Once satisfied, the requirements of the compliance plan will become obsolete.)

6. The Bureau of Air Regulation recently issued Permit No. 0510003-034-AC to install the railcar loading/unloading/storage system at the refinery. You may submit the revised Title V application pages for this new

unit with a compliance plan. The permit requires only an opacity test and the submittal of the test report. (Once satisfied, the requirements of the compliance plan will become obsolete.)

7. The Bureau of Air Regulation recently issued Draft Permit No. 0510003-035-AC to install a dry cyclone dust collector for Boiler 8. The only requirement is a notification of completion of construction, which would be listed as the compliance plan and become obsolete once submitted. Please submit only the revised application pages for the proposed dry cyclone dust collector for Boiler 8.

8. You have recently submitted a request to EPA Region 4 to remove the NESAHP requirement to monitor pressure drop across the wet cyclones. Do you want to include this request as part of the Title V renewal project or proceed without these revisions?

9. On May 19, 2006, we received your request to revise the original permit that modified the oil firing systems for Boilers 1 and 2. The Department intends to issue a revised permit shortly based on your request. The revision must be included in the Title V renewal project because all construction and testing is now complete. Please submit only the revised Title V application pages for these units.

10. You had previously indicated you would request a revision of the bagasse handling system regarding the installation of dust collectors as well as a revision to increase the maximum steam production rate for Boiler 8. Do you plan to submit this request shortly and include it as part of the Title V renewal project or proceed without these revisions?

11. Please review the previously submitted compliance plan and update as necessary.

The Department will resume processing your application after receipt of the requested information. Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. For any material changes to the application, please include a new certification statement by the authorized representative or responsible official. You are reminded that Rule 62-4.055(1), F.A.C. requires applicants to respond to requests for information within 90 days or provide a written request for an additional period of time to submit the information.

If you have any questions regarding this matter, please call me at 850/921-9536.

Sincerely,

Jeffery F. Koerner, P.E.
BAR - Air Permitting North

cc: Mr. Don Griffin, U.S. Sugar Corporation
Mr. David Buff, P.E., Golder Associates
Mr. Ron Blackburn, SD Office
Mr. James Stormer, PBCHD
Ms. Kathleen Forney, EPA Region 4

Wet Impingement Scrubbers

Clewiston Boiler 1 (EU-001)	Indicator #1	Indicator #2
Indicator (PM)	Pressure drop across scrubber	Total scrubber water flow rate
Measurement Approach	Manometer (or equivalent)	Flow Meter
Indicator Range	6 inches water column, minimum **Average: 9" w.c.**	50 gpm, minimum **Average: 300 gpm**
Monitoring Frequency	Continuous readout	Continuous readout
Data Collection	Recorded once per 8-hour shift **Current: Every 8 hours**	Recorded once per 8-hour shift **Current: Every 8 hours**

Clewiston Boiler 2 (EU-002)	Indicator #1	Indicator #2
Indicator (PM)	Pressure drop across scrubber	Total scrubber water flow rate
Measurement Approach	Manometer (or equivalent)	Flow Meter
Indicator Range	5 inches water column, minimum **Average: 9" w.c.**	58 gpm, minimum **Average: 300 gpm**
Monitoring Frequency	Continuous readout	Continuous readout
Data Collection	Recorded once per 8-hour shift **Current: Every 8 hours**	Recorded once per 8-hour shift **Current: Every 8 hours**

Clewiston Boiler 4 (EU-009)	Indicator #1	Indicator #2
Indicator (PM and SO_2)	Pressure drop across scrubber	Total scrubber water flow rate
Measurement Approach	Manometer (or equivalent)	Flow Meter
Indicator Range	7.6 inches w. c., minimum **Average: 8" w.c.**	220 gpm, minimum **Average: 375 gpm**
Monitoring Frequency	Continuous readout	Continuous readout
Data Collection	Recorded once per 8-hour shift **Current: Every 3 hours**	Recorded once per 8-hour shift **Current: Every 3 hours**

Bryant Boiler 1 (EU-001)	Indicator #1	Indicator #2
Indicator (PM)	Pressure drop across scrubber	Total scrubber water flow rate
Measurement Approach	Manometer (or equivalent)	Flow Meter
Indicator Range	4.5 inches w.c., minimum **Average: 8.8" w.c.**	200 gpm, minimum **Average: 240 gpm**
Monitoring Frequency	Continuous readout	Continuous readout
Data Collection	Recorded once per 8-hour shift **Current: Every 8 hours**	Recorded once per 8-hour shift **Current: Every 8 hours**

Bryant Boiler 2 (EU-002)	Indicator #1	Indicator #2
Indicator (PM) per Scrubber (2 Scrubbers)	Pressure drop across scrubber	Total scrubber water flow rate
Measurement Approach	Manometer (or equivalent)	Flow Meter
Indicator Range	3.6 inches w.c., minimum **Average: 4.8" w.c.**	200 gpm, minimum **Average: 170 gpm**
Monitoring Frequency	Continuous readout	Continuous readout
Data Collection	Recorded once per 8-hour shift **Current: Every 8 hours**	Recorded once per 8-hour shift **Current: Every 8 hours**

Bryant Boiler 3 (EU-003)	Indicator #1	Indicator #2
Indicator (PM)	Pressure drop across scrubber	Total scrubber water flow rate
Measurement Approach	Manometer (or equivalent)	Flow Meter
Indicator Range	5.4 inches w.c., minimum **Average: 7.2" w.c.**	216 gpm, minimum **Average: 240 gpm**
Monitoring Frequency	Continuous readout	Continuous readout
Data Collection	Recorded once per 8-hour shift **Current: Every 8 hours**	Recorded once per 8-hour shift **Current: Every 8 hours**

Bryant Boiler 5 (EU-005)	Indicator #1	Indicator #2
Indicator (PM)	Pressure drop across scrubber	Total scrubber water flow rate
Measurement Approach	Manometer (or equivalent)	Flow Meter
Indicator Range	7.2 inches w.c., minimum **Average: 11.5" w.c.**	765 gpm, minimum **Average: 400 gpm**
Monitoring Frequency	Continuous readout	Continuous readout
Data Collection	Recorded once per 8-hour shift **Current: Every 8 hours**	Recorded once per 8-hour shift **Current: Every 8 hours**

Wet Cyclones - Pre-Controls

Clewiston Boiler 7 (EU-014)	Indicator #1
Indicator (PM and SO_2)	Total scrubber water flow rate
Measurement Approach	Flow Meter
Indicator Range	??? gpm, minimum **Average: 40 gpm**
Monitoring Frequency	Continuous readout
Data Collection	**Current: Not recorded**

Clewiston Boiler 8 (EU-028)	Indicator #2
Indicator (PM and SO_2)	Total scrubber water flow rate
Measurement Approach	Flow Meter
Indicator Range	??? gpm, minimum **Average: 713 gpm**
Monitoring Frequency	Continuous readout
Data Collection	**Current: Not recorded**

Electrostatic Precipitator – Primary Controls

Clewiston Boiler 7 (EU-014)	Indicator #1
Indicator (PM)	Total Secondary Power Input
Measurement Approach	Amp/Volt Meter
Indicator Range	44 kW, minimum **Average:**
Monitoring Frequency	Continuous readout
Data Collection	Recorded once per 8-hour shift **Current: Every 8 hours**

Clewiston Boiler 8 (EU-028)	Indicator #1
Indicator (PM)	Total Secondary Power Input
Monitoring Approach	Identical to NEHSAP Subpart DDDDD requirements

Venturi Scrubber

Clewiston GCRF (EU-017)	Indicator #1	Indicator #2
Indicator (PM)	Pressure drop across scrubber	Total scrubber water flow rate
Measurement Approach	Manometer (or equivalent)	Flow Meter
Indicator Range	??? inches w.c., minimum **Design: 20"-30" w.c.**	??? gpm, minimum **Design: 36 gpm**
Monitoring Frequency	Continuous readout	Continuous readout
Data Collection	Recorded once per 8-hour shift **Current: Every 8 hours**	Not recorded **Current: Not recorded**

Tray Scrubber

Clewiston GCRF (EU-017)	Indicator #1	Indicator #2
Indicator (PM)	Pressure drop across scrubber	Total scrubber water flow rate
Measurement Approach	Manometer (or equivalent)	Flow Meter
Indicator Range	??? inches w.c., minimum **Design: 3" - 5" w.c.**	??? gpm, minimum **Design: 230 gpm**
Monitoring Frequency	Continuous readout	Continuous readout
Data Collection	Recorded once per 8-hour shift **Current: Every 8 hours**	??? **Current: Not recorded**

Baghouse

Clewiston 3 Vacuum Pickups (EU-018)	Indicator #1	Indicator #2
Indicator (PM) per Baghouse – 3 Units	Pressure drop across baghouse	Opacity
Measurement Approach	Manometer (or equivalent)	EPA Method 22
Indicator Range	?? inches water column, minimum **Average: ???**	Observed visible emissions
Monitoring Frequency	Continuous readout	Continuous readout
Data Collection	Recorded once per day **Current: No recording**	Recorded once per day **Current: No recording**

Wet Vortex Scrubber

Clewiston White Sugar Dryer 2 (EU-029)	Indicator #1	Indicator #2
Indicator (PM)	Pressure drop across scrubber	Total scrubber water flow rate
Measurement Approach	Manometer (or equivalent)	Flow Meter
Indicator Range	Under construction **Design: 8" w.c.**	Under construction **Design: 12 gpm**
Monitoring Frequency	Continuous readout	Continuous readout
Data Collection	Continuously, 3-hr block avg.	Continuously, 3-hr block avg.