Technical Evaluation
and
Preliminary Determination

United States Sugar Corporation
Clewiston, Florida
Hendry County

Boiler Number 4
Proposed Permit Number
AC 26-80930

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

November 7, 1984

State of Florida
Department of Environmental Regulation
Notice of Proposed Agency Action on Permit Application

The Department gives notice of its intent to issue a permit to United States Sugar Corporation to construct a 545.5 million Btu/hr bagasse/No. 6 residual oil fired boiler at their existing plant in Hendry County. This plant is located near the intersection of W. C. Owens Avenue and Clewiston Street, Clewiston, Florida.

The boiler will use bagasse and No. 6 residual oil for fuels. Bagasse will be the primary fuel. Particulate matter emissions will be controlled with a wet impingement scrubber. Sulfur dioxide emissions will be limited by restrictions on the quantity of residual oil burned and its sulfur content. Emissions of other air pollutants will be controlled by good firing and operational practices.

Limitations to restrict emissions were established by a Best Available Control Technology determination. These limits are summarized below:

Particulate matter:	0.150 lb/million Btu for bagasse fuel, 0.10 lb/million Btu for residual oil fuel, 179 TPY Maximum
Sulfur Dioxide:	Maximum of 1.5 percent sulfur in residual oil, 350 TPY maximum
VOC, NO_x and CO	Good operating practice

These emissions will not cause an ambient air violation or exceed the allowable PSD increment or violate any state or federal regulation. The ambient air impact of these emissions, in percent of increment consumed, are listed below:

Pollutant	Annual	24 hr	3 hr
Particulate Matter	2	16	NA
Sulfur Dioxide	15	57	31

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statues.

If a petition is filed the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this preliminary statement. Therefore, persons who may not object to the proposed agency action may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207 at least five (5) days before the final hearing and be filed with the hearing officer, if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallhassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, FL 32301

Muncipal Library
530 South Main St.
Belle Glade, FL 33430

Department of Environmental Regulation
South Florida District
2269 Bay Street
Fort Myers, FL 33901

Any person may send written comments on the proposed action to Mr. Clair Fancy at the Department's Tallahassee address. All comments mailed within 30 days of the publication of this notice will be considered in the Department's final determination.

RULES OF THE ADMINISTRATIVE COMMISSION
MODEL RULES OF PROCEDURE
CHAPTER 28-5
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

28-5.15 Requests for Formal and Informal Proceedings

(1) Requests for proceedings shall be made by petition to the agency involved. Each petition shall be printed typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double spaced and indented.

(2) All petitions filed under these rules should contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name and address of the petitioner or petitioners;

(c) All disputed issues of material fact. If there are none, the petition must so indicate;

(d) A concise statement of the ultimate facts alleged, and the rules, regulations and constitutional provisions which entitle the petitioner to relief;

(e) A statement summarizing any informal action taken to resolve the issues, and the results of that action;

(f) A demand for the relief to which the petitioner deems himself entitled; and

(g) Such other information which the petitioner contends is material.

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Notice of Proposed Agency Action

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I. Project Description

A. Applicant

United States Sugar Corporation
Post Office Drawer 1207
Clewiston, Florida 33440

B. Project and Location

United States Sugar Corporation proposes to transfer an existing fossil fuel steam generator (boiler) from out-of-state, modify it to burn wet bagasse, produce 250,000 lb/hr of steam from 545.5 million Btu/hr of heat input from bagasse or bagasse/No. 6 residual oil fuels, and install a locally built impingement scrubber to control the emissions of particulate matter and sulfur dioxide at their Clewiston mill. The proposed unit will be designated Boiler No. 4. This mill is located near the intersection of W. C. Owens Avenue and Clewiston Street in Clewiston, Hendry County, Florida. The UTM coordinates of the mill are 17-506.1 E and 2956.9 N.

C. Operation

Sugar cane from the fields surrounding the mill is cut and hauled to the plant where it is crushed by steam powered grinding mills. The juice from the cane is concentrated in steam heated evaporaters to produce molasses and crystalline sugar. The bagasse, which contains approximately 55 percent moisture, is burned in boilers to produce the steam used to operate the plant. The steam is used to produce electricity, to operate the steam powered equipment, and to supply heat to the evaporaters.

U.S. Sugar Corporation currently operates five boilers equipped with spray impingement scrubbers. The existing boilers range from 134 to 286 million Btu/hr heat input and have 65 to 75 foot high stacks on them. All five boilers burn bagasse and three of them can also burn No. 6 residual oil. Residual oil is used during boiler start-up and when needed to meet the plant's steam demand. Oil usage by each boiler is measured with an oil meter. The amount of bagasse consumed by each boiler can be determined by a heat balance.

The proposed No. 4 boiler was built by Foster-Wheeler. It is a traveling grate type that was designed to burn fossil fuel. It will be modified to burn 75.76 TPH of wet (55 percent moisture) bagasse and produce 250,000 lb/hr of steam. This is equivalent to a heat input of 545.5 million BTU/hr. The boiler will also be capable of producing 150,000 lb/hr of steam by burning 1,500 gal/hr No. 6 residual fuel in two oil burners. This is equivalent to a heat input of 225 million Btu/hr. Fuel oil for the proposed boiler will be supplied from the existing 400,000

gallon storage tank. Although bagasse is the primary fuel for the proposed boiler, residual oil is used during start-up and concurrently with bagasse when necessary to meet plant steam demand.

Boiler No. 4 will be operated during the sugar cane harvesting season, October 15 to April 15. The boiler will be limited by permit conditions to burning 500,000 gallons of residual oil per season. In addition all boilers at the plant will be limited by permit conditions to burning a total of 6,300 gallons of residual oil during any 3-hour period and 40,800 gallons of residual oil during any 24-hour period. The east and west pellet mills, which also consume fuel oil, will be permanently shut down. These restrictions are necessary to assure that the sulfur dioxide PSD increment is not exceeded.

The flue gases from the boiler will pass through a locally built spray impingement scrubber, whose design is based on the Joy type D, size 200, "Turbulaire" spray impingement scrubber, through a fan, and a 7.25 foot diameter, 150 foot high stack to the atmosphere. The scrubber will operate with a pressure drop of approximately 5.5 inches of water, and will use 200-300 GPM of scrubber water. The gas flow from the scrubber is estimated at 205,180 ACFM, at 153 °F.

The steam produced by boiler No. 4 will be used in the existing turbine generator sets to produce five thousand kilowatts of electricity and also in the existing power and process equipment.

II. Rule Applicability

Boiler No. 4 will be a source of air pollution and must obtain a permit to construct (Rule 17-2.210, FAC). The proposed project is subject to preconstruction review under the provisions of Chapter 403, FS, and Chapter 17-2, FAC.

The plant site is in an area designated attainment for all criteria air pollutants (17-2.420).

The facility is a major source of particulate matter, sulfur dioxide, nitrogen oxides, volatile organic compounds, and carbon monoxide since the emission of each of these criteria pollutants exceeds 100 TPY (17-2.100(99)). The installation is subject to the Prevention of Significant Deterioration (PSD) regulations (17-2.500) because the increases in emissions of these pollutants from the proposed boiler exceed the Significant Emissions Rates listed in Table 500-2 (17-2.500(2)(d)2.). Therefore, the project is subject to the Preconstruction Review Requirements (17-2.500(5)) and the allowable emission limits of air pollutants are established by a Best Available Control Technology (BACT) determination (17-2.500(5)(c)).

III. Technical Evaluation

A. Particulate Matter

During normal operations, proposed boiler No. 4 will produce 250,000 lb/hr of steam by burning 151,528 lb/hr of wet (55 percent water) bagasse with a total heating value of 545.5 million Btu/hr. The uncontrolled particulate matter emissions from the boiler, based on an emission factor of 16 lb. PM/ton bagasse, will be 1,212 lb/hr. The BACT determination and construction permit restrictions will limit particulate matter emissions from burning bagasse to 0.150 lb/million Btu heat input which, at maximum capacity, is equivalent to 81.8 lb/hr and 178.7 TPY for the 182 day season. The proposed scrubber must be approximately 93 percent efficient to meet this emission standard. Data from Joy Manufacturing Company, whose design the scrubber is based on, shows that the proposed scrubber is capable of efficiencies above 93 percent - depending on the particulate matter particle size and pressure drop across the scrubber.

Boiler No. 4 may also produce 150,000 lb/hr of steam by burning 1,500 gal/hr of No. 6 residual oil which is equivalent to a heat input of 225 million Btu/hr. The BACT determination and construction permit restrictions will limit particulate matter emissions from burning fuel oil to 0.10 lb/million Btu which, at maximum permitted oil consumption, is equivalent to 22.5 lb/hr.

When the boiler is burning both bagasse and fuel oil, the allowable particulate matter emissions will be prorated by heat input and the emission standards for each fuel.

In conjunction with this project, the allowable particulate matter emissions from existing bagasse/oil fired boilers No. 1 and 2, which are controlled by scrubbers similar to the one proposed for boiler No. 4, will be reduced from 0.3 to 0.25 lb/million Btu heat input. Also, the east and west pellet mills will be shut down. This will reduce the impact of the particulate matter emissions from the existing air pollution sources at the facility on the ambient air quality and ensure that all ambient air quality standards are met.

B. Sulfur Dioxide

Bagasse contains about 0.2 percent sulfur (dry basis) which may be converted to sulfur dioxide during the combustion process. Dry bagasse has a heating value of approximately 8,000 Btu/lb. The Company estimates that 50 percent of the potential sulfur dioxide emissions while burning bagasse will be retained in the ash and scrubber water. Thus, the maximum sulfur dioxide emissions while burning the quantity of bagasse equivalent to 545.5 million Btu/hr will be 136.4 lb/hr, or, based on a 182 day season, 298 TPY.

The Company also proposes to burn up to 1,500 GPH of No. 6 residual oil (225 million Btu/hr) with a 2.5 percent sulfur content. This is the same sulfur content that they use in three of their existing boilers. By limiting the heat input to a maximum of 225 milliom Btu/hr, the proposed boiler is not subject to NSPS, Subpart D. Sulfur dioxide emissions from burning this oil will be 2.7 lb/million Btu, or at 225 million Btu/hr heat input, 607 lb/hr of sulfur dioxide.

The department has determined that No. 6 residual oil with 1.5 percent sulfur is BACT. No. 6 fuel oil with 1.5 percent sulfur produces an emission of 1.64 lb/million Btu of sulfur dioxide. With a 225 million Btu/hr heat input from this oil, the sulfur dioxide emission from the oil will be 369 lb/hr.

The Company has also proposed to limit fuel oil consumption in the No. 4 boiler to 500,000 gallons per year. With this oil limit on boiler No. 4, the maximum sulfur dioxide emissions from oil will be 61.5 TPY. If oil containing 2.5 percent sulfur were burned, the emissions would be 102.5 TPY.

The Company has also volunteered to limit fuel oil consumption from all the boilers at the plant to 6,300 gallons per 3 hour period (average of 2,100 gal/hr) and 40,800 gallons per day (average of 1,700 gal/hr). These limits were proposed so that the impact of the emissions from the facility would not violate the SO_2 PSD increment. With these limits, the maximum sulfur dioxide emissions from the facility will be 1,250 lb/hr.

Because a single 400,000 gallon capacity storage tank is used for all boilers at the facility, the department will allow the lower sulfur fuel required for the proposed No. 4 boiler to be used in any boiler at the plant. This is to be accomplished by replacing <u>any</u> fuel oil burned in No. 4 boiler with fuel oil containing 1.5 percent or less sulfur. Although the lower sulfur oil mixed in the common storage tank may be burned in any boiler at the plant, the net result in total sulfur dioxide emissions will be what the department intended.

Various combinations of fuel oil and bagasse consumption by the boiler will give varying sulfur dioxide emissions. However, the maximum sulfur dioxide emission from fuel oil burned at the facility will not exceed 1,250 lb/hr.

C. Other Pollutants

Good firing and operational practices will be used to minimize emissions of other air pollutants, primarily products of combustion. The department does not believe that "add on" control for these air pollutants is justified in this situation. The emissions of these pollutants are expected to be similar to

those listed in AP-42, Compilation of Air Pollutant Emission Factors.

A summary of the emissions of the criteria pollutants from the facility are listed in the following table. Additional information on emissions from boiler No. 4 will be found in the BACT determination in the Appendix. The ambient impact of the emissions are discussed in the Modeling Section of the Appendix.

IV. Conclusion

Based on a review of the data submitted by United States Sugar Corporation, the department has concluded that the company can install and operate a 250,000 lb/hr steam boiler with the Joy designed scrubber in compliance with all applicable state and federal regulations provided: the Joy designed scrubber is built to factory specifications and operated at optimum conditions; the restrictions on oil consumption proposed by the applicant and the limit on the maximum sulfur content in the No. 6 residual oil imposed by the department are met; and the operations of existing sources of particulate matter are modified. Compliance with the General and Specific Conditions listed in the proposed permit (attached) will assure compliance of the source with these regulations. In addition, the department will conduct its own emission tests on this source to determine if it is in compliance with the regulations and permit conditions.

Table I

Current Emissions, Emission Reductions, and Net Increase in Emissions for Regulated Criteria Pollutants

	Emission (TPY)				
	PM	SO_2	NOx	CO	VOC
Current Emissions					
Boiler 1, 2, 3, 4, 5, and 6	434	433	238	360	319
Emission Decrease					
Pellet Plant	6	18	3	0.2	<1
Emission Increase					
Boiler 4 (proposed)	178.7	350	206	298	281
Net Emission Increase	172.7	332	238	298	281
PSD Significant Rate	25	40	40	100	40

Appendix A. Air Quality Impact Analysis

As noted in Section II., the operation of the proposed boiler No. 4 will result in significant emissions of PM, SO_2, NO_x, CO, and VOC. The air quality impact analysis required for these pollutants includes:

* An analysis of existing air quality;
* A PSD increment analysis (for PM and SO_2 only);
* An Ambient Air Quality Standards (AAQS) analysis;
* An analysis of impacts on soils, vegetation, and visibility, and growth-related air quality impacts; and
* A "good engineering practice (GEP)" stack height analysis.

The analysis of existing air quality generally relies on preconstruction monitoring data collected in accordance with EPA-approved methods. The PSD increment and AAQS analyses depend on air quality modeling carried out in accordance with EPA guidelines.

Based on these required analyses, the Department has reasonable assurance that the proposed modification, as described in this permit and subject to the conditions of approval proposed herein, will not cause or contribute to a violation of any PSD increment or ambient air quality standard. A discussion of the modeling methodology and required analyses follows.

A. Modeling Methodology

The EPA-approved Industrial Source Complex (ISC) dispersion model was used in the air quality impact analysis. This model was used to determine the maximum predicted annual concentrations and to identify the absolute worst-case short-term meteorological conditions which would affect emissions from U.S. Sugar Corporation in Clewiston after the proposed modification is completed. It was also used to identify days on which meteorological conditions produced worst-case short-term impacts from U.S. Sugar Corporation with interacting sources located directly upwind.

The maximum short-term impacts due to emissions from the U.S. Sugar Corporation mill in Clewiston and all major interacting sources were analyzed using a refined grid spacing of 0.1 kilometers between receptors and only the days on which worst-case meteorological conditions occurred.

The maximum predicted annual concentrations are based upon maximum predicted 182-day average concentrations divided by 2.

Since worst-case impacts for each pollutant subject to analysis occur under different fuel burning conditions, modeling and analysis for each of these pollutants was performed using the

appropriate worst-case fuel mix. Permit conditions will limit the total amount of mill-wide fuel oil consumption during any 3-hour and 24-hour period.

The surface meteorological data used in the models were National Weather Service data collected at West Palm Beach, Florida during the period 1970-74. Upper air meteorological data used in the models were collected during the same time period at Miami, Florida. Final stack parameters and emission rates used in evaluating the proposed U.S. Sugar Corporation modification are contained in Table II.

B. Analysis of Existing Air Quality

The department may exempt a proposed major modification from the ambient monitoring requirements of the PSD regulations with respect to a particular pollutant if the emissions increase of the pollutant due to the modification would be predicted to result in air quality impacts less than the de minimis impact level for that pollutant. Only the SO_2 impact due to boiler No. 4 operation is predicted to exceed the de minimis impact level. But the maximum predicted 24-hour SO_2 impact for boiler No. 4 is greater than the de minimis level only when boiler No. 4 is burning a maximum amount of fuel oil. This condition can occur, at most, less than 5% of the time. In addition, fuel oil useage in the boiler will be minimized because of the costly nature of burning this fuel as compared to bagasse. For this reason, SO_2 impacts while burning all bagasse in the boiler are considered to be more representative of the actual ambient impacts. Under these conditions, the maximum predicted 24-hour SO_2 impact is 9 ug/m^3, which is below the PSD SO_2 de minimis impact level of 13 ug/m^3, 24-hour average. Based upon these considerations, the department exempted U.S. Sugar from PSD preconstruction monitoring for SO_2. However, the department did assume a conservative background SO_2 value of 20 ug/m^3 for all averaging times.

Since total estimated VOC emissions (281 tons/year) exceed the 100 tons per year de minimis level, preconstruction monitoring for ozone is required. Since ambient ozone data from Florida Sugar Cane League (FSCL) monitors was not available, ambient ozone data from the Twenty-Mile Bend monitoring station operated by Palm Beach County Health Department (SAROAD No. 3420-006-G03), which meets the requirements for a regional monitor, was used to satisfy this requirement. The monitor is located in a nonattainment area for ozone and would be expected to measure ozone levels higher than those which would be measured in the Clewiston area. No exceedances of the air quality for standard for ozone were measured at this monitor.

Even though maximum predicted PM impacts from boiler No. 4 are less than the de minimis level, the submittal of one year of preconstruction monitoring data for total suspended particulate matter (TSP) was required in order to estimate a background TSP air quality concentration level. The FSCL operates and maintains a PSD-approved ambient monitoring network in the Florida sugar industry area. There are two PSD monitors (#7 and #19) located within 10 kilometers of the Clewiston mill. Data from both of these monitors met all department and EPA quality assurance reuqirements. TSP data was collected from October 1982 to December 1983.

FSCL monitor #19, which is located in a remote area just less than 10 kilometers south of the U.S. Sugar mill, recorded two TSP values above the Florida AAQS of 150 ug/m^3, 24-hour average. Due to its distance from the mill, it is very unlikely that it would be significantly impacted by emissions from the boilers at U.S. Sugar. There were sugar cane field fires in the immediate vicinity of the monitor on the days when the two high recordings occurred. The department attributed these values to these sugar cane field fires.

Data from both monitors were used in order to more accurately reflect the impact of both the traditional particulate sources at the mill (the boilers) and the nontraditional sugar cane field burning particulate emissions. The department has assumed that the average of the annual geometric means from the two monitors best represents the existing air quality or background value for all averaging times. This value is 44 ug/m^3 and is comparable to the background value (43 ug/m^3) assumed in other sugar cane industry permits issued during the past three years.

C. PSD Increment Analysis

The proposed U.S. Sugar modification is located in an area where the Class II increments apply. The nearest Class I area is more than 100 kilometers away from the proposed site.

There are no other increment consuming emissions in the immediate vicinity of the U.S. Sugar mill although there are other increment consuming sources within a 50 kilometer radius of U.S. Sugar-Clewiston. Even though these sources consume increment in the area around U.S. Sugar, this consumption is very small. The combined impacts of these sources and U.S. Sugar in the interacting directions are less than the maximum increment consumed by Boiler No. 4. There is actually increment expansion due to the planned shutdown of the East and West pellet plants in conjunction with the proposed operation of boiler No. 4. However, the maximum predicted impacts of boiler No. 4 only were compared with the PSD increments.

The predicted 24-hour SO_2 concentration (52 ug/m^3) due to maximum fuel oil burning in boiler No. 4 consumes the highest percent (57%) of the Class II increments. Under normal operating conditions (bagasse burning), however, this increment consumption will be much less (less than 10%). As shown in Table III, modeling results predict that the maximum PM and SO_2 increment consumption will not exceed allowable increments. The highest, second highest short-term predicted concentrations are given in the table since five years of meteorological data were used in the modeling.

D. AAQS Analysis

Given existing air quality in the area of U.S. Sugar, the proposed modification is not expected to cause or contribute to any violation of state or federal AAQS. For this proposed modification an AAQS analysis is required for PM, SO_2, NO_x, and CO. As stated earlier, the department assumed background values of 20 ug/m^3 for SO_2 and 44 ug/m^3 for PM.

In addition even though no NO_2 monitoring was required, the department has estimated a background value of 20 ug/m^3. This value is based upon data gathered elsewhere around the state.

The results of the AAQS analysis are shown in Table IV. The highest, second highest short-term predicted values are given in this table for PM and SO_2 since five years of meteorological data were used.

Modeling was also performed to evaluate the impacts of interactions of emissions from other sources with those from U.S. Sugar. Maximum contributions from surrounding sources are very small compared to maximum ground level concentrations from U.S. Sugar. These interactions are predicted to cause lower impacts on air quality in the vicinity of the mill than the maximum impacts of U.S. Sugar's emissions alone.

E. Analysis of Impacts on Soils, Vegetation, and Visibility, and Growth-Related Air Quality Impacts.

The maximum ground-level concentrations predicted to occur as a result of emissions due to the proposed modification will be below all applicable AAQS including the secondary standards designed to protect public welfare related values. An analysis of the impacts on soil and vegetation indicates no adverse impacts.

A Level-I visibility screening analysis was performed and predicted no visibility impairment should occur in the Everglades National Park Class I area due to this modification.

No significant secondary residential, commercial or industrial growth which will adversely affect air quality in the area is expected.

F. GEP Stack Height Evaluation

Regulations published by EPA in the Federal Register of February 8, 1982, define GEP stack height as the maximum nearby building height plus 1.5 times the building height or width, whichever is less. The stack height proposed for boiler No. 4 is 150 feet. This stack height is less than the GEP stack height of 225 feet calculated from the dimensions of the boiling house. A downwash analysis was performed which indicated that the proposed stack height will be sufficient to ensure that PM and SO_2 emissions from this stack will not result in excessive ground-level concentrations as a result of aerodynamic effects of nearby structures.

TABLE II

STACK PARAMETERS AND EMISSION RATES FOR EVALUATING WORST-CASE IMPACTS DUE TO PROPOSED MODIFICATION

Emissions Unit	Stack Height (m)	Stack Diameter (m)	Exit Velocity (m/s)	Exit Temperature (K)	Emission Rates (g/s) PM	24-hr SO_2	3-hr SO_2
Boiler No. 1	22.86	1.86	23.10[1]	344.00	14.6	45.4	51.4
Boiler No. 2	22.86	1.86	24.70[1]	343.00	14.3	42.7	50.3
Boiler No. 3	27.43	2.29	10.10[1]	342.00	10.4	25.7	30.4
Boiler No. 5	19.81	1.83	11.40	338.00	5.1	4.3	4.3
Boiler No. 6	19.81	1.83	11.00	340.00	5.2	4.4	4.4
Boiler No. 4	45.72	2.21	25.20	340.00	10.3	17.1[2]	17.2

1. Exit velocities for 24-hour SO_2 case are 23.60, 25.60 and 10.50 for boilers No. 1, 2, 3, respectively. Exit velocities for PM case are 22.50, 25.90 and 11.70 for boilers No. 1, 2, 3, respectively.

2. Absolute worst-case for boiler No. 4 is 81.0 g/s when maximum fuel oil burned. This can occur less than 14 days per cane season.

TABLE III

COMPARISON OF NEW SOURCE IMPACTS
WITH PSD INCREMENTS

Pollutant and Time Average	PSD Class II Increment	Predicted Concentration	Percent Increment Consumed
SO_2 (ug/m^3)			
3-hour	512	161	31
24-hour	91	52	57
Annual	20	3	15
PM (ug/m^3)			
24-hour	37	6	16
Annual	19	0.3	2

TABLE IV

COMPARISON OF PREDICTED IMPACTS WITH AMBIENT AIR QUALITY STANDARDS

Pollutant and Time Average	Existing Background[1]	U.S. Sugar	All Sources[1]	Florida AAQS
SO_2 (ug/m^3)				
3-hour	20	569	590	1300
24-hour	20	227	248	260
Annual	20	13	33	60
PM(ug/m^3)				
24-hour	44	102	147	150
Annual	44	6	50	60
NO_2 (ug/m^3)				
Annual	20	<1[2]	---[2]	100
CO (ug/m^3)				
8-hour	0	17	---[3]	10,000
1-hour	0	39	---[3]	40,000

1) Includes the existing background.

2) Boiler No. 4 impact only. Since this impact was insignificant, the maximum impact of all sources in area including other U.S. Sugar sources was not evaluated.

3) Because of insignificant U.S. Sugar impact, the maximum impact of all sources in the area was not evaluated.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

DRAFT

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

PERMITTEE:
U.S. Sugar Corporation
P. O. Drawer 1207
Clewiston, Florida 33440

Permit Number: AC 26-80930
Expiration Date: May 1, 1985
County: Hendry
Latitude/Longitude: 26° 44' 30"N/ 80° 56' 15"W
Project: Boiler No. 4

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 17-2, 17-4 and 40 CFR 52.21. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the department and made a part hereof and specifically described as follows:

Installation of a used 545.5 million BTU/hr heat input (250,000 lb/hr steam) Foster Wheeler boiler modified to burn bagasse and/or No. 6 residual oil along with a Joy Manufacturing Company designed Turbulaire spray Impingement Scrubber. The modified boiler will be installed at U.S. Sugar Corporation's existing sugar mill that is located near the intersection of W. C. Owens Avenue and Clewiston Street in Clewiston, Hendry County, Florida. The UTM coordinates of this site are 17-506.1 Km E and 2956.9 Km N.

Construction shall be in accordance with the application for a permit to construct a Bagasse/Oil-Fired Boiler that was signed by Mr. A. R. Mayo on February 1, 1984, and the additional information submitted by Hopping Boyd Green and Sams on June 1, 1984, and September 24, 1984, and Mr. A. R. Mayo on July 30, 1984, and September 19, 1984, except for the changes mentioned in the Technical Evaluation and Preliminary Determination and listed as specific conditions in the construction permit.

DRAFT

PERMITTEE:
U.S. Sugar Corporation
P. O. Drawer 1207
Clewiston, Florida 33440

Permit Number:AC 26-80930
Expiration Date: May 1, 1985

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

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 any vested rights or any exclusive privileges. Nor 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 does not constitute a waiver of 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 acknowledgement 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, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, 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.

PERMITTEE:
U.S. Sugar Corporation
P. O. Drawer 1207
Clewiston, Florida 33440

Permit Number: AC 26-80930
Expiration Date: May 1, 1985

GENERAL CONDITIONS:

6. The permittee shall at all times 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, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

a. Having access to and copying any records that must be kept under the conditions of the permit;

b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sampling or monitoring 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 notify and provide the department with the following information:

a. a description of and cause of non-compliance; and

b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

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PERMITTEE:
U.S. Sugar Corporation
P. O. Drawer 1207
Clewiston, Florida 33440

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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 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 arising under the Florida Statutes or department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

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 17-4.12 and 17-30.30, 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 is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

(X) Determination of Best Available Control Technology (BACT)
(X) Determination of Prevention of Significant Deterioration (PSD)
( ) Compliance with New Source Performance Standards.

14. The permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.

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b. The permittee shall retain 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), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be 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:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- 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 submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. Steam production by boiler No. 4 shall not exceed 250,000 lb/hr. The boiler shall be equipped with an instrument to continuously record steam production.

2. Heat input from No. 6 residual oil shall not exceed 225 million Btu/hr which is equivalent to approximately 1,500 GPH of oil and 150,000 lb/hr steam. The boiler shall be built so that not more than two oil guns can be installed.

3. During any 12 month period, the maximum quantity of No. 6 residual oil burned in boiler No. 4 shall not exceed 500,000 gallons.

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4. During any 24 hour period, not more than 40,800 gallons of fuel oil shall be burned in all stationary fuel oil burning equipment at the plant. All permits to operate other oil burning equipment at this plant shall be revised to include this limitation prior to the issuance of a permit to operate boiler No. 4.

5. During any 3 hour period, not more than 6,300 gallons of fuel oil shall be burned in all stationary fuel oil burning equipment at the plant. All permits to operate other oil burning equipment at this plant shall be revised to include this limitation prior to the issuance of a permit to operate boiler No. 4.

6. All stationary fuel oil burning equipment at the plant shall be equipped with integrating fuel oil flow meters to record the amount of fuel oil consumed by the equipment. Oil meter readings on all oil consuming equipment shall be read and logged at least once every three hours and these logs kept for at least five years. The fuel consumption records for each of these sources shall be kept for a minimum of five years for department inspection. Each meter shall be calibrated annually by a method approved by the department.

7. Heat input to boiler No. 4 from bagasse fuel or a combination of bagasse/oil fuel shall not exceed 545.5 million Btu/hr.

8. Prior to the expiration of this construction permit, a test shall be made on boiler No. 4 to determine its actual thermal efficiency. This must be repeated each time the operating permit is renewed while the tubes are clean and within 14 days of the compliance tests.

9. The scrubber controlling the emissions from boiler No. 4 shall be built to Joy Manufacturing Company's specifications for their Turbulaire, Type D, Size 200 spray impingement scrubber and equipped with instruments to measure and continuously record the gas pressure drop, scrubber water pressure, volumetric flow of the scrubber water, and pH of the scrubber water. Records of these measurements shall be obtained each day boiler No. 4 operates and these records kept for a minimum of five years for department inspection.

10. Particulate matter emissions from boiler No. 4 shall not exceed 0.150 lb/million Btu heat input for bagasse fuel or 0.10 lb/million Btu heat input for No. 6 residual oil fuel. In the

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event that both fuels are burned concurrently, the allowable particulate matter emissions shall be prorated from the allowable standards for each fuel by their respective heat inputs. Compliance with the particulate matter standards shall be determined by EPA Reference Methods 1, 2, 3, 4, and 5 as described in 40 CFR 60, Appendix A. Emission test results shall be calculated by both the F factor and an energy balance that uses measured boiler efficiency. Until the F factor procedure is adopted by the department, the compliance test results shall be based on the energy balance. All compliance test shall be conducted while the boiler is operating at its maximum or permitted capacity, whichever is lower. The South Florida District Office shall be notified 15 days prior to any compliance test. Scrubber parameters listed in Specific Condition No. 9 shall be recorded during the test and included in the test report.

11. Visible emissions from boiler No. 4 shall not exceed 20 percent opacity except that 40 percent opacity is allowed for 2 minutes during any hour. Compliance with this standard shall be determined by DER Method 9 as described in Chapter 17-2, FAC. The particulate matter emissions and visible emissions shall always be determined concurrently.

12. Any No. 6 residual oil fuel burned in this boiler shall contain less than 2.5 percent sulfur and shall be replaced with fuel oil containing no more than 1.5 percent sulfur during that season. Compliance with this condition shall be determined from certified analysis of the replacement oil by ASTM Method D-219, records of the quantity of fuel oil consumed in the No. 4 boiler, and invoices for the oil purchased. These records shall be kept for a minimum of five years for regulatory agency inspection.

13. Sulfur dioxide emissions from the boiler, while it is burning 100 percent bagasse fuel, shall not exceed 0.25 lb/million BTU heat input as determined by the EPA Method 6 as described in 40 CFR 60, Appendix A. Emission test results shall be calculated by both the F factor and an energy balance that uses measured boiler efficiency. Until the F factor procedure is adopted by the department, the compliance test results shall be based on the energy balance. Boiler No. 4 shall be tested for sulfur dioxide emissions while it is operating at permitted or maximum capacity, whichever is less, before March 1, 1985. The District shall be notified 15 days prior to the scheduled test.

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The pH of the scrubber water along with the other scrubber parameters listed in Specific Condition No. 9 shall be included in the test report. Sulfur dioxide emissions from boiler No. 4, while it is burning a mixture of oil and bagasse, shall not exceed 680 lb/hr.

14. Emissions of carbon monoxide and volatile organic compounds shall be maintained at the lowest possible level through the implementation of an Operation and Maintenance plan that is approved by the department. Emissions of carbon monoxide shall not exceed 0.25 lb/million BTU as determined by EPA Method 10. Emissions of volatile organic compounds shall not exceed 1.7 lb/ton of bagasse or the potential emissions from burning bagasse, whichever is lower, as determined by EPA Method 25. These test methods are described in 40 CFR 60, Appendix A. After the initial compliance tests, compliance tests for these pollutants will not be required if the visible emissions from boiler No. 4 are below 20 percent opacity if the initial VOC Method 25 tests show compliance.

15. Visible emissions from the bagasse handling systems shall not exceed 10 percent opacity over any 6 minute period as measured by DER Method 9. Water spray or other effective means will be used to minimize fugitive emissions when reclaiming dry bagasse for the boiler.

16. Nitrogen oxides emissions, expressed as NO_2, shall not exceed 136.8 lb/hr as determined by EPA Reference Method 7 described in 40 CFR 60, Appendix A. After the initial compliance test, the Company may substitute an Operation and Maintenance plan that is approved by the department that optimized the NO_x emissions for the compliance tests specificed in this specific condition if the initial Method 7 test show compliance.

17. The pellet mills at this plant shall be permanently shut down, made inoperative by disconnecting the electrical power or by other means as approved by the department, and the permits to operate surrendered to the South Florida District Office prior to commercial operation of boiler No. 4. The permits to operate boilers Nos. 1 and 2 shall be revised to limit particulate matter emissions to 0.25 lb/million Btu heat input prior to the issuance of an operating permit for boiler No. 4.

18. The applicant will demonstrate compliance with the conditions of this construction permit and submit a complete application for

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a permit to operate to the District office 90 days prior to the expiration of this construction permit. The applicant may continue to operate in compliance with all terms of this construction permit until its expiration or until issuance of a permit to operate.

19. Any permit to operate issued for boiler No. 4 will limit operation to 182 days per season; require the scrubber to be operated at or above the pressure drop that existed during the compliance test; require as a minimum, annual particulate matter and visible emission tests; an annual operation report which will include the amount of oil burned at the plant to determine compliance with the limits on oil usage in this permit and the sulfur content of the residual oil purchased for the season; and a monthly summary of the scrubber parameters listed in Specific Condition No. 9.

20. If the scrubber on boiler No. 4 fails the initial particulate matter compliance test, U.S. Sugar shall:

a. Measure the inlet and outlet particulate matter emissions from the scrubber by EPA Method 5.

b. Measure the particulate matter size distribution by a method approved by the department.

c. Hire an independent Florida Professional Engineer that has a background in scrubber design and is not associated with the Florida Sugar Cane industry to recommend modifications of the scrubber that will bring the emissions into compliance with the permit conditions.

d. If the emissions are not in compliance with the emission standards by the start of the 1985-86 season, U.S. Sugar must obtain a consent order, with appropriate financial penalties, from the Florida Department of Environmental Regulation and EPA, Region IV, before resuming commercial operations of boiler No. 4.

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SPECIFIC CONDITIONS:

Issued this_____day of_____, 19__

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION

_____
VICTORIA J. TSCHINKEL, Secretary

____ pages attached.

Best Available Control Technology (BACT) Determination

U.S. Sugar Corporation

Hendry County

The applicant plans to install a 545.5 million Btu per hour heat input bagasse-fired steam generator. The unit will be capable of firing No. 6 residual oil to be limited to a heat input of 225 million Btu per hour, since bagasse will be the primary fuel. The unit will be operated during the sugar cane season which is October 15 through April 15. The source designated identification will be Boiler No. 4.

Boiler No. 4-applicant's summary of air pollutant emissions is as follows:

Pollutant	Emissions Tons/Year	Significant Rate
Particulates	238	25
SO_2	382	40
NO_x	206	40
CO	298	100
Ozone (VOC)	281	40

Rule 17-2.500 (5) requires a Best Available Control Technology (BACT) review for all regulated pollutants emitted in an amount equal to or greater than the significant emission rates listed in

Table 500-2, Regulated Air Pollutants-Significant Emission Rates. The effected pollutants in this case are particulates, ozone (VOC), sulfur dioxide, nitrogen oxides and carbon monoxide. The source is to be located in an area classified as attainment for all regulated air pollutants.

BACT Determination Requested by the Applicant

Pollutant	Emission Limit
Particulate (Bagasse)	0.20 lb/million Btu, heat input,
(oil)	0.10 lb/million Btu heat input
SO_2 (Bagasse)	0.25 lb/million Btu, heat input
(oil)	2.5% sulfur content oil and annual consumption not to exceed 500,000 gallons
NO_x	136.8 lb/hr
CO	136.4 lb/hr

A Spray impingement scrubber similar in design to a Joy type D, size 200, "Turbulaire" spray impingement scrubber will be constructed and installed to control particulate emissions. Sulfur dioxide emissions will be limited by the minimization of the use of fuel oil containing a maximum sulfur content of 2.5 percent. Good firing and operational practices will be followed to minimize NO_x, ozone, (VOC), and CO emissions.

Date of Receipt of a BACT application:

January 14, 1984

Date of Publication in the Florida Administrative Weekly:

February 10, 1984

Review Group Members:

The determination was based upon comments received from the New Source Review Section, the Air Modeling Section and the South Florida District.

BACT Determined by DER:

Pollutant	Emission Limit
Particulates	
100% Bagasse	0.150 lb/million Btu heat input
100% No. 6 oil	0.10 lb/million Btu heat input

Sulfur Dioxide	No. 6 new [1] fuel oil with a sulfur content not to exceed 1.5 percent by weight
NO_x, CO, Ozone (VOC)	O&M plan
Visible Emissions	Maximum 20% opacity except that 40% opacity is permissible for not more than 2 minutes in any one hour.

[1] The "new" oil means an oil which has been refined from crude oil and has not been used, and which may or may not contain additives.

DER Method 9 (17-2.700(6)(a)9, FAC) will be used to determine compliance with the opacity limit.

Compliance with the particulate and sulfur dioxide limitations, when firing 100% bagasse fuel, will be in accordance with 40 CFR 60, Appendix A; Methods 1, 2, 3, 4 and 5. The proposed department F-factor method, if approved, shall be used to determine the heat input rate.

Compliance with the sulfur dioxide and particulate emission limits, when firing No. 6 residual oil, will be by fuel analysis using ASTM method D-219.*

Compliance with the nitrogen oxides, carbon monoxide, and ozone (VOC) limitations will be the applicant's submittal and implementation of an Operation and Maintenance program.

*Use the most recent revision or designation of the ASTM procedure specified.

BACT Determination Rationale:

Bagasse is a plant solid waste residue remaining from the processing of sugar cane. The bagasse is burned as fuel to produce the steam required in the processing plant, and to eliminate a solid waste disposal problem. Fuel oil is fired during furnace start-up and may be fired concurrently with the bagasse as necessary to meet plant steam demands. The sulfur content of bagasse ranges from 0.1 to 0.2 percent, and has a moisture content that may vary from 50 to 60 percent depending on geographic location and climatic conditions during the sugar cane growing season.

Bagasse is by DER definition a "Carbonaceous Fuel", Rule 17-2.100(29), and the furnace is "Carbonaceous Fuel Burning Equipment", Rule 17-2.100(30).

If carbonaceous fuel were fired in a steam generator subject to New Source Performance Standards, the particulate emission limit would be 0.10 lb/million Btu heat input. If carbonaceous fuel were disposed of in a municipal incinerator, the particulate emission limit would be approximately 0.03 grains/DSCF, or less than 0.1 lb/million Btu heat input. Both of these particulate standards are currently being met.

The particulate emission limiting standard for a new source burning carbonaceous fuel and not subject to PSD review is 0.2 pound per million Btu heat input (Rule 17-2.600(10)).

On June 19, 1984, EPA proposed (49 FR 25102) a New Source Performance Standard (NSPS), Subpart Db for Industrial-Commercial-Institutional Steam Generating Units. Bagasse would be a by-product/waste as defined in the proposed subpart. The steam generator to be installed by the applicant was constructed prior to the NSPS applicability date of June 19, 1984, and therefore, the proposed emission standards of Subpart Db would not apply.

The department has determined that for U.S. Sugar Corporation's bagasse-fired steam generator No. 4, a particulate emission limit of 0.15 pound per million Btu heat input is BACT. Compliance with this standard will require a control system that is approximately 93% efficient. AP-42, Section 1.8-2, indicates

that wet scrubbers are capable of achieving 90 or more percent particulate control from bagasse boilers.

The applicant will also fire No. 6 residual oil at a rate not to exceed a heat input of 225 million Btu/hr. The total amount of oil consumed in No. 4 boiler per season will not exceed 500,000 gallons. Based upon the heat input limitation this boiler would be considered a small boiler subject to Rule 17-2.600(6). Control of particulate and sulfur dioxide emissions for fossil fuel fired steam generators, subject to this rule, is usually the use of low sulfur content fuel.

The applicant provided the following cost data for No. 6 oil.

Percent sulfur content	Dollars/Gallon
2.5	.72
2.0	.79
1.5	.83
1.0	.80

The department has determined that, in this case, BACT for controlling particulate and sulfur dioxide emissions when firing residual oil will have a sulfur content, by weight, not to exceed 1.50 percent. The additional cost per season would be $55,000 if the maximum amount, 500,000 gallons, was fired in No. 4 boiler instead of the 2.5% sulfur content oil requested by the applicant. The department has determined that the firing of 1.5% or less sulfur content oil is the more economical control method when compared to the installation and operation of a FGD system.

The applicant will not be required to install a separate fuel oil storage tank for the low sulfur oil, (the existing boilers are permitted to fire 2.5% sulfur content oil). Low sulfur fuel oil shall be included in every oil delivery to the plant and shall be equal to the amount consumed in the No. 4 unit. The certified analysis of each oil shipment is to be held for five years. Air modeling indicates no adverse impact to the ambient air as a result of this procedure.

The applicant shall install an integrating fuel oil flow meter with no bypass in the boiler fuel oil line as close to the burner as practical. The meter shall be accurate to within five percent and shall be approved by the department. The recorded charts will be retained by the applicant for a minimum of five years. After the initial tests oil analysis by ASTM Method D-219 may be used in lieu of a stack test to determine compliance with the SO_2 emission limit when firing a liquid fossil fuel.

The sulfur content of bagasse ranges from 0.1 to 0.2 percent. The impact of sulfur dioxide emissions, when firing bagasse, is such that the department does not believe a FGD system to be justified.

The low nitrogen content, and high moisture content of bagasse and consequently lower combustion temperatures, inherently limit NO_x emissions. The department does not believe that additional NO_x controls are justified.

Excessive carbon dioxide emissions are the result of incomplete fuel combustion. This results in the loss of available heat

energy and will also cause soot to coat the boiler tubes which then lowers the boiler heat transfer efficiency. The department believes that the economics of obtaining maximum efficiency from the steam generator is sufficient incentive to minimize CO emissions. The department does not believe that an add on system to control CO emissions is justified.

The applicant has recommended that good firing and operational practices are BACT to control NO_x, ozone (VOC) and CO emissions. The department agrees and has determined that BACT to control NO_x, ozone (VOC), and CO is the preparation of an operation and maintenance (O&M) program. The O&M program must be approved by the department prior to startup of the boiler.

The term "new oil" is included to prevent the use of waste oil as fuel, emissions from which were not considered in this BACT analysis.

Details of the Analysis May be Obtained by Contacting:

Edward Palagyi, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended By:

_____

C. H. Fancy Deputy Chief, BAQM

Date: _____

Approved By: _____

Victoria J. Tschinkel, Secretary

Date: _____