PM
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5-23-88

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HOPPING BOYD GREEN & SAMS

ATTORNEYS AND COUNSELORS

SUITE 420, FIRST FLORIDA BANK BUILDING
POST OFFICE BOX 6526
TALLAHASSEE, FLORIDA 32314
(904) 222-7500

May 23, 1988

BY HAND DELIVERY

Dale H. Twachtmann, Secretary
c/o Office of General Counsel
Florida Department of Environmental Regulation
2600 Blair Stone Road, Room 654
Tallahassee, Florida 32399-2400

RECEIVED
MAY 23 1988
DER-BAQM

Re: U. S. Sugar Corporation
Bryant Mill Boiler No. 5
Permit No. AC 50-137573

Dear Secretary Twachtmann:

On May 9, 1988, U. S. Sugar Corporation, received the Department's air construction permit No. AC 50-137573 authorizing an increase in the production capacity of Boiler No. 5 at its Bryant Mill. The permit was issued by the Department's Bureau of Air Quality Management, along with a Final Determination. Pursuant to Florida Administrative Code Rule 17-103.155, U. S. Sugar has until May 23, 1988 to file a petition for administrative proceedings regarding the Department's Permit No. AC 50-137573 ("the permit").

I am writing on behalf of U. S. Sugar Corporation to request an extension of thirty (30) days, to and including June 22, 1988, in which to file a petition for administrative proceedings regarding the proposed permit. This request is made pursuant to Florida Administrative Code Rule 17-103.070, which provides that a timely request for extension of time shall toll the running of the time period in which to file an appropriate petition. As good cause for granting the requested extension of time for filing, U. S. Sugar would show the following:

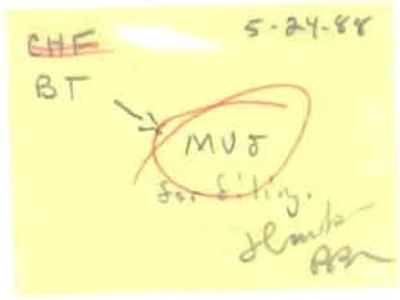
HOPPING BOYD GREEN & SAMS
POST OFFICE BOX 6526
TALLAHASSEE, FLORIDA 32314

6-17

Willard -
What is status on this one?

6-17-88 Clair

U.S. Borax has permit & amendment they requested. Knew of no unresolved problems with permit when



Clair Fancy
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road, Room 338
Tallahassee, Florida 32399-2400

1. The permit authorizes an increase in the production capacity of an existing bagasse-fired boiler previously permitted by the Department and contains thirteen specific conditions. The Department addressed all of the concerns raised by U. S. Sugar regarding the draft permit, but two of the permit conditions in the final permit would benefit from further clarification.

2. Peter Barquin of U. S. Sugar discussed these two specific conditions with Willard Hanks, of the Bureau of Air Quality Management, by telephone on May 12, 1988, and followed-up this conversation by a letter to Clair Fancy on May 17, 1988. It appears probable that the parties will be able to reach agreement on these conditions.

3. This request is filed as a protective measure to avoid waiver of U. S. Sugar's rights to challenge any provision of the permit. Grant of this request will allow the parties an opportunity to complete discussion of the permit conditions of interest and to achieve a mutually acceptable resolution of U. S. Sugar's concerns without the need for initiation of formal administrative proceedings.

I hereby certify that I have spoken with Betsy Pittman, of the Department's Office of General Counsel, and that she is in agreement with the grant of this request.

Accordingly, I respectfully request that you formally extend the time for filing of a petition for administrative proceedings in regard to the Department's Permit No. AC 50-137573 to and including June 22, 1988.

Sincerely,

Peter C. Cunningham

PCC/gb

cc: Betsy Pittman, Esquire
Clair Fancy ✓
Willard Hanks ✓
A. R. Mayo
Peter Barquin
CHF/BT 5-24-88 RRM
Willard Hanks
Gene Sacco - Palm Beach Co. H.D.
David Knowles - So. FL Dist.

PM
18 May 1988
Clewiston, FL

File Copy

UNITED STATES SUGAR CORPORATION

Post Office Drawer 1207 Clewiston, Florida 33440
Telephone: (813) 983-8121 Telex: 510-952-7753

May 17, 1988

Mr. C. H. Fancy, P.E.
Deputy Chief
Florida Department of Environmental Regulation
2600 Blair Stone Road
Twin Towers Office Building
Tallahassee, Fl. 32399-2400

Re: Bryant Boiler No. 5
Permit #AC 50-137573

Dear Mr. Fancy:

As per our telephone conversation with your Mr. Willard Hanks last Thursday, May 12, 1988, we are sending you at his request our calculations for the steam production limits for the one-hour maximum, the 24-hour average and the maximum yearly, under "the alternate Pressure and Temperature Parameters" of 400 psig, 750°F, with the same heat inputs as shown on the permit.

Our calculations show a difference in the one hour maximum of 4,315 lbs/hr., in the 24 hour average of 3;749 lbs/hr., and in the maximum yearly of 13,227,016 lbs/year steam from those in the final permit. We presume the figures in the construction permit were the result of purely an arithmetical error and we are therefore requesting that you incorporate the correct figures in the permit perhaps through an addendum or a letter to be made part of the permit.

We also discussed Specific Condition No. 4, second paragraph, where the language was changed from the Proposed Permit as was sent to us initially which read ".....within 10% of its permitted capacity"..... to ".... between 90% and 100% of its permitted capacity"... This language is too stringent for a bagasse fired boiler for in effect it reduces the margin under which this boiler may be tested by 50%. In a boiler burning bagasse which is a fuel of variable combustibility it will be at times very difficult to maintain such a close average steaming rate during a compliance test. We therefore request that the language be reverted to that of the original proposed permit.

We sincerely appreciate the expediency with which you have expedited this permit, and respectfully request the incorporation of the above in the permit.

Very truly yours,

UNITED STATES SUGAR CORPORATION

Peter Barquin
Administrative Ass't. to Senior
Vice President, Sugar Houses

Copied Willard Hanks } 5.20.88
CHF IBT

PB:jt
cc: Mr. Willard Hanks
Mr. David Knowles
Mr. Peter Cunningham
Mr. David Buff

Bryant Boiler No. 5 Steam Production Calculations
For Alternate Pressure and Temperature Parameters

A. BOILER ALTERNATE OPERATING DATA

1. Steam Enthalpies

Boiler feedwater @ 340° F - 311.3 Btu/lb

Steam @ 400 psig, 750° F - 1389.0 Btu/lb

Heat gain by steam = 1389 - 311.3 = 1077.7 Btu/lb

2. Steam Rate Calculations

a. Assumptions

All calculations based upon 55% boiler maximum efficiency when firing bagasse

b. Maximum hourly steam production

Maximum hourly heat input = 671.0×10^6 Btu/hr

671.0×10^6 Btu/hr x 0.55 / 1077.7 Btu/lb = 342,442 lb/hr steam

c. Maximum 24-hour average steam production

Maximum 24-hour average heat input = 583.0×10^6 Btu/hr

583.0×10^6 Btu/hr x 0.55 / 1077.7 Btu/lb = 297,532 lb/hr steam

d. Maximum yearly steam production

297,532 lb/hr x 24 hr/day x 147 days/yr = 1,049,692,896 lb/yr steam

UNITED STATES SUGAR CORPORATION
Post Office Drawer 1207
Clewiston, Florida 33440

Mr. C. H. Fancy, P.E
Deputy Chief
Florida Department of Environmental
Regulation
2600 Blair Stone Road
Twin Towers Office Building
Tallahassee, Fl. 32399-2400

COST CENTER C. Fancy DATE 5-20-88

RECEIVED
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DER - BAQM

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Bryant Boiler No. 5 Steam Production Calculations For Alternate Pressure and Temperature Parameters

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SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.
1. ☒ Show to whom delivered, date, and addressee's address. *†(Extra charge)†*
2. ☐ Restricted Delivery *†(Extra charge)†*

3. Article Addressed to:	4. Article Number
Mr. A.R. Mayo, Senior Vice President U.S. Sugar Corp. P.O. Box 1207 Clewiston, FL 33440	P 794 947 071
	Type of Service: ☐ Registered ☐ Insured ☒ Certified ☐ COD ☐ Express Mail
	Always obtain signature of addressee or agent and DATE DELIVERED.
5. Signature – Addressee X	8. Addressee's Address *(ONLY if requested and fee paid)*
6. Signature – Agent X	
7. Date of Delivery 5-9-88	

PS Form **3811**, Mar. 1987 ★ U.S.G.P.O. 1987-178-268 **DOMESTIC RETURN RECEIPT**

P 794 947 071

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
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Sent to A.R. Mayo, Sr. V. P. U.S. Sugar Corp.	
Street and No. P.O. Box 1207	
P.O., State and ZIP Code Clewiston, FL 33440	
Postage	$
Certified Fee	
Special Delivery Fee	
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Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date Mailed: May 5, 1988 Permit: AC 50-137573	

PS Form 3800, June 1985

Florida Department of Environmental Regulation

Twin Towers Office Bldg. ● 2600 Blair Stone Road ● Tallahassee, Florida 32399-2400

Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

Mr. A. R. Mayo, Senior Vice President
U.S. Sugar Corporation
P.O. Box 1207
Clewiston, Florida 33440

May 5, 1988

Enclosed is permit No. AC 50-137573, for U.S. Sugar Corporation to increase the steam production from boiler No. 5 at the Bryant Mill located on U.S. Route 98, Clewiston, in northwest Palm Beach County, Florida. This permit is issued pursuant to Section 403, Florida Statutes.

Any Party to this permit has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this permit is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management

Copy furnished to:

D. Knowles, SF Dist.
D. Buff, P.E.
B. Miller, EPA
G. Sacco, PBCHD

Final Determination

U.S. Sugar Corporation
Bryant, Florida
Palm Beach County

Boiler No. 5 Modification
Permit No. AC 50-137573

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

April 29, 1988

Final Determination

The Technical Evaluation and Preliminary Determination for the proposed modification to Boiler No. 5 at U.S. Sugar Corporation's Bryant mill, which is located near Pahokee, Palm Beach County, Florida (File No. AC 50-137573), was distributed on February 4, 1988. Copies of the evaluation were available for public inspection at the Municipal Library in Bell Glade, the Palm Beach County Health Department in West Palm Beach, and the Department's offices in Ft. Myers and Tallahassee. The Notice of Proposed Agency Action was published in The Palm Beach Post on February 22, 1988.

Comments on the Department's proposed action were submitted by the Environmental Protection Agency and the attorney for the applicant.

In a letter dated March 9, 1988, the Environmental Protection Agency concurred with the Department's Preliminary Determination and listed the changes EPA will make to the federal permit (PSD-FL-009) for this source. Their changes are consistent with the Department's Preliminary Determination.

In a letter dated February 22, 1988, the attorney for the applicant requested a 30 day extension to the time allowed to file a petition for administrative proceedings regarding the proposed permit. The time was needed to evaluate and comment on the permit provisions.

In a letter dated March 22, 1988, the attorney for the applicant requested another 30 day extension to the time allowed to file a petition for administrative proceedings and submitted comments on five of the specific conditions in the proposed permit. One comment was revised in another letter dated March 24, 1988. Another extension to the time allowed to file a petition for administrative proceedings, until June 15, 1988, was requested in a letter dated April 19, 1988. Another specific condition revision was requested in a letter dated April 19, 1988. Their comments and the Department's responses follows.

Specific Condition No. 1

Comment - This specific condition limited the amount of steam and heat content that could be produced by the boiler each year to the values listed in the application and used in the heat balance to determine fuel consumption. The applicant asked to be allowed to produce an unspecified larger quantity of lower heat content steam.

Response - Limits on steam production and heat content are needed to provide reasonable assurance that permit conditions are being complied with. Unspecified steam values could require the Department to make a heat balance calculation for numerous steam pressure/temperature combinations to determine compliance with the heat input limit for this boiler. For this reason, the applicant's requested change is denied. However, the Department, using the alternate pressure and temperature steam parameters the company uses, has calculated the quantity of steam that can be produced with the amount of fuel allowed by the permit. These values were listed as an alternate steam production limit in Specific Condition No. 1. This change will give the applicant the flexibility they need and allow the Department to determine compliance with the heat input limitation without making heat balance calculations.

Specific Condition No. 2

Comment - Currently, some of the boilers at this facility are restricted to burning fuel oil with a maximum of 0.7% sulfur while others burn oil up to 2.4% sulfur. The applicant has requested permission to blend these oils in the fuel oil storage tank that serves all the boilers at this facility.

Response - Use of blended fuels in all of the boilers at this plant will result in a slight decrease in sulfur dioxide emissions. The Department has reworded this condition to allow the use of blended fuel oil in Boiler No. 5.

Specific Condition No. 3

Comment - Boiler operations are limited to the sugar cane production season. The applicant requested the dates the boiler is allowed to operate be adjusted to allow for an "early" season.

Response - The Department has reworded the condition to allow boiler operations during an earlier season as requested by the applicant.

Specific Condition No. 4

Comment - The applicant requested the second paragraph of this specific condition be reworded to allow the compliance tests to be conducted when the boiler is burning a mixture of bagasse and oil.

Response - The Department has reworded this specific condition to allow oil to be burned during the compliance test.

Specific Condition No. 8

Comment - The applicant requested scrubber parameters be recorded every 4 hours instead of every 3 hours as required by this Specific Condition.

Response - The Department has reworded this Specific Condition to relax the scrubber data recording requirements to that requested by the applicant.

Specific Condition No. 13

Comments - The applicant requested the limit on steam production be relaxed (see discussion on Specific Condition No. 1) and that scrubber operation parameters be based on 8 hour averages instead of 6 hours averages because of the requested changes to Specific Condition No. 8.

Response - The Department has altered Specific Condition No. 13 to be consistent with the changes described in the discussions for Specific Condition Nos. 1 and 8.

The final action of the Department will be to issue the permit as proposed in the Technical Evaluation and Preliminary Determination except for the changes discussed above.

Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary

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

Permit Number:AC 50-137573
Expiration Date: May 31, 1989
County: Palm Beach
Latitude/Longitude: 26° 50' 41"N
80° 37' 09"W
Project: Boiler No. 5
Modification

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 17-2 and 17-4. 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:

Authorization to increase the heat input of the No. 5 Boiler to 583 MMBtu/hr, 24 hour average, and 671 MMBtu/hr, maximum 1 hour average, at U.S. Sugar Corporation's existing sugar mill that is located in northwest Palm Beach County on U.S. Route 98, Bryant, Florida. The UTM coordinates of this site are Zone 17, 537.8 km E and 2969.1 km N.

Construction will be in accordance with the permit application and plans, documents, and reference material submitted unless otherwise stated in the General and Specific Conditions herein.

Attachments:

1. Application received December 21, 1987.
2. Hopping, Boyd, Green, & Sams letter dated February 22, 1988.
3. EPA letter dated March 9, 1988.
4. Hopping, Boyd, Green, & Sams letter dated March 22, 1988.
5. Hopping, Boyd, Green, & Sams letter dated March 24, 1988.
6. Hopping, Boyd, Green, & Sams letter dated April 19, 1988 (request for specific condition revision).
7. Hopping, Boyd, Green, & Sams letter dated April 19, 1988 (request for extension in time to file for a hearing).

PERMITTEE:
U.S. Sugar Corporation

Permit Number:AC 50-137573
Expiration Date: May 31, 1989

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.

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.

GENERAL CONDITIONS:

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:

( ) Determination of Best Available Control Technology (BACT)
( ) 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.

GENERAL CONDITIONS:

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, steam pressure, steam temperature, heat input, and bagasse consumption shall not exceed the quantities listed below:

Steam PSIG	°F	Averaging Time	Steam Prod. lbs/hr	Heat Input* MMBtu/hour	Bagasse Consumption TPH-Wet
850	900	1-hr max.	323,189	671	93
850	900	24-hr avg.	280,804	583	81
400	750	1-hr max.	338,127	671	93
400	750	24-hr avg.	293,783	583	81

* assuming boiler efficiency for bagasse is 55%

SPECIFIC CONDITIONS:

Steam production shall not exceed 990,676,512 lbs/yr of 850 psig, 900°F steam or 1,036,465,880 lbs/yr of 400 psig, 750°F steam. If steam in both pressure/temperature classes is produced during the year, the allowable steam production, in lbs/yr, is the weighted average of the limits for each class of steam production. The permittee shall maintain records (steam production, pressure, and temperature) to determine compliance with this condition.

2. Heat input from No. 6 residual oil shall not exceed 215.6 MMBtu/hr (approximately 1,467 GPH) and 400,000 gallons per season. Blended fuel oil from the common fuel oil system may be burned in this boiler. Any fuel oil burned in Boiler No. 5 shall be replaced, during the season it is burned, with fuel oil whose sulfur content shall not exceed 0.7%. The boiler shall be equipped with an integrating fuel oil flow meter. The permittee shall maintain a log of the fuel oil consumption and invoices of the fuel oil purchased for this boiler that shows the sulfur content and heating value of the oil (determined by appropriate ASTM methods) to show compliance with this condition.

3. Boiler No. 5 shall not operate commercially during the period of May 1 through October 15.

4. Particulate matter emissions from Boiler No. 5 shall not exceed 0.15 lbs/million Btu heat input for bagasse fuel (assuming 55% efficiency) or 0.10 lbs/million Btu heat input for No. 6 residual oil fuel. In the 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. The compliance test results shall be calculated by assuming the thermal efficiency of Boiler No. 5 is 55 percent for bagasse, or by any new method subsequently adopted by Department rule. For informational purposes only, the particulate matter emission rate shall also be calculated by utilizing both the F factor (for each compliance test) and the short term ASME boiler efficiency test results (once every five years). Scrubber parameters (pressure drop, pressure, and flow) shall be recorded every 15 minutes or continuously during the compliance test.

All compliance tests shall be conducted while the boiler is operating between 90 and 100 percent of its permitted capacity; provided however, if the tests are conducted at less than 90% of the boiler's permitted capacity, the permittee shall notify the

South Florida District office and repeat the compliance tests when the steam production increases by 10% above the tested capacity. The boiler shall not be operated above the permitted capacity. The South Florida District office shall be notified 15 days prior to any compliance test.

5. Visible emissions from Boiler No. 5 shall not exceed 20% opacity except that 40% opacity is allowed for 2 minutes during any one hour. Compliance with the standards shall be determined by DER Method 9 as described in Chapter 17-2, FAC. The particulate matter emissions and visible emissions shall be determined concurrently. Under circumstances when this is not feasible, the company shall obtain prior approval from the South Florida District to conduct the tests at separate times. In such circumstances, the tests shall be conducted as close to each other as is feasible.

6. Bagasse fuel emission factors used in determining rule applicability for this modification are:

Pollutant	Emission Factor
SO_2	0.25 lbs/MMBtu (24 hr-avg), 0.50 lbs/MMBtu (1 hr-avg)
NOx	1.2 lbs/ton wet bagasse
CO	0.25 lbs/MMBtu
VOC	1.4 lbs/ton wet bagasse

7. 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 approved by the Department.

8. The scrubber controlling the emissions from Boiler No. 5 shall be equipped with instruments or the company shall be capable of measuring the gas pressure drop, water pressure, volume flow, and pH of the scrubber water. During one season of operation at the higher steam production rates, readings at 4 hour intervals of the gas pressure drop shall be taken and logged for each day that Boiler No. 5 operates. If any 4 hour average gas pressure drop falls more than twenty-five percent below the average pressure drop recorded during the compliance test, the Department may require a compliance test at the lower pressure drop and may also require the installation of an instrument to continuously measure and record the gas pressure drop.

SPECIFIC CONDITIONS:

Readings at 4 hour intervals of the pH of the scrubber water shall be taken and logged for each day during which bagasse is burned in boiler No. 5 during its first season of operation following issuance of this construction permit. The Department will be notified if chemicals are used to adjust pH. If any 4 hour average pH value falls more than ten percent below the pH that existed during the compliance test for sulfur dioxide, the Department may require the installation of an instrument to continuously measure and record scrubber water pH.

During compliance testing, the scrubber parameters shall be measured and recorded at 15 minute intervals.

Records of the measurements required by this condition shall be obtained each day Boiler No. 5 operates during the first season and copies of the records transmitted to the South Florida District and the Bureau of Air Quality Management at the end of the season.

After review of one complete season's data, the Bureau of Air Quality Management and the South Florida District will establish the scrubber parameters to be monitored and the frequency of monitoring. These requirements shall become a condition to any permit to operate issued for Boiler No. 5. The records required by the permit to operate shall be kept for a minimum of five years for agency inspection.

Prior to the expiration date of this construction permit, the permittee shall confirm the emission factors used in the application by conducting tests by the procedures described in 40 CFR 60, Appendix A, for each of the pollutant listed in Specific Condition No. 6. This permit does not require routine compliance tests for these pollutants.

9. If visible emissions from the bagasse handling system exceed 20 percent opacity, the permittee shall take reasonable precautions, as approved by the Department, to minimize unconfined emissions. These precautions shall include covered conveyors, minimizing the distance the bagasse is dropped during handling, and windbreaks around the material handling equipment.

10. A test shall be made on Boiler No. 5 to determine its actual thermal efficiency in accordance with the ASME short-form procedure each time the operating permit for the boiler is renewed. The most recent report on the thermal efficiency test shall be included with the application for the permit to operate this boiler.

PERMITTEE:
U.S. Sugar Corporation

Permit Number:AC 50-137573
Expiration Date: May 31, 1989

SPECIFIC CONDITIONS:

11. The boiler will not be operated at the higher steam production rate until EPA modifies the federal permit (PSD-FL-0009) for this source.

12. The permittee will demonstrate compliance with the conditions of the construction permit and submit a complete application for a permit to operate to the South Florida District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of this construction permit until its expiration date.

13. Any permit to operate issued for Boiler No. 5 is limited to 990,676,512 lbs/yr of 850 psig, 900°F steam or 1,036,465,880 lbs/yr of 400 psig, 750°F steam. This limit can be prorated if steam in both classes is produced during a season. The permit to operate shall require the scrubber to be operated at an 8 hour average pressure drop not less than 90 percent of the 8 hour average pressure drop that existed during the particulate tests that showed compliance, or not less than 75% of this pressure drop at any time. The operating permit shall further require, as a minimum, annual particulate matter and visible emissions tests; an annual operation report, which will include the amount of oil burned 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. 8.

Issued this 2 day of May, 1988

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION

Dale Twachtmann

Dale Twachtmann, Secretary

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee
To: Maggie Location:
To: Location:
To: Location:
From: Date:

Interoffice Memorandum

TO: Dale Twachtmann

FROM: Howard L. Rhodes

SUBJ: Approval of U.S. Sugar Corporation's Bryant Bill Boiler Modification

State Construction Permit Number: AC 50-137573

DATE: April 29, 1988

Attached for your approval and signature is a permit prepared by Central Air Permitting for the above mentioned company to increase the steam production of the bagasse/oil fired No. 5 Boiler at U.S. Sugar Corporation's Bryant Mill by burning more bagasse than the previous permit allowed. The facility is located near Pahokee, Palm Beach County, Florida. Comments were received during the public notice period.

Day 90, after which this permit will be issued by default, is June 15, 1988.

I recommend your approval and signature.

HLR/aqm/wh

attachments

RECEIVED
MAY 2 1988
Office of the Secretary

RECEIVED
MAY 03 1988
DER - BAQM

file copy

HOPPING BOYD GREEN & SAMS
ATTORNEYS AND COUNSELORS
SUITE 420, FIRST FLORIDA BANK BUILDING
POST OFFICE BOX 6526
TALLAHASSEE, FLORIDA 32314
(904) 222-7500

CARLOS ALVAREZ
BRIAN H. BIBEAU
ELIZABETH C. BOWMAN
WILLIAM L. BOYD, IV
RICHARD S. BRIGHTMAN
PETER C. CUNNINGHAM
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ELEANOR M. HUNTER
DAVID L. POWELL
CHERYL G. STUART

OF COUNSEL
W. ROBERT FOKES

April 19, 1988

BY HAND DELIVERY

RECEIVED
APR 19 1988
DER-BAQM

Willard Hanks
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road, Room 338
Tallahassee, Florida 32399-2400

Re: U. S. Sugar Corporation
Bryant Mill Boiler No. 5

Dear Willard:

Enclosed please find copies of the following documents that I understand you requested from Peter Barquin of U. S. Sugar Corporation:

1. DER Construction Permit No. AC50-5177 issued September 20, 1978, with transmittal letter of same date.

2. Letter dated August 15, 1979 from DER District Manager Philip R. Edwards to Mr. A. R. Mayo, Vice President of U. S. Sugar Corporation modifying Conditions No. 10 and 11 of Permit No. AC50-5177.

Please let me know if you have any questions or if I may be of further assistance.

Sincerely,

Peter C. Cunningham

Peter C. Cunningham

PCC/gb
Enclosures
cc: A. R. Mayo
Peter Barquin

Copied: Willard Hanks
CHF/BT
Bruce Miller U.S. EPA
4-21-88

As I recall we have done the fuel blending before ~~But~~ there was a time limit on replacement to protect short term increments

BT

4 21 88

~~[illegible]~~ > FYI
~~[illegible]~~

(M)

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTH FLORIDA DISTRICT
2180 WEST FIRST STREET SUITE 401
FORT MYERS, FLORIDA 33901

REUBIN O. D. ASKEW
GOVERNOR

VICTOR J. ANDREWS JR.
SECRETARY

September 20, 1978

Mr. A. R. Mayo, Vice President
U. S. Sugar Corporation
P. O. Drawer 1207
Clewiston, Florida 33440

RE: Palm Beach County - AP
U. S. Sugar
Boiler #5

Dear Mr. Mayo:

Pursuant to Section 403.061(16), Florida Statutes, your application, dated 5-3-78, and plans submitted by your consultants to support this application have been reviewed and found acceptable to the department. We, therefore, are issuing to you the enclosed permit (No. AC50-5177) dated 9-20-78 to construct the subject pollution source.

This permit is not effective unless you accept it. If you do not accept this permit, including any and all of the conditions contained therein, you must file an appropriate petition for an administrative hearing pursuant to the provisions of Section 120.57, Florida Statutes, within fourteen (14) days from receipt of this letter. This petition must comply with the requirements of Section 28-5.15, Florida Administrative Code, and be filed with the Secretary of the Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32301. If no petition is filed within the above time period, you will be deemed to have accepted this permit and waived your right to request an administrative hearing on this permit issuance, and it will constitute final agency action. Should you file a petition for hearing, it will be subject to dismissal by the Division of Administrative Hearings if it does not comply with the requirements of Section 28-5.15, Florida Administrative Code.

Sincerely

Philip R. Edwards
District Manager

PRE/TWD/lms

CC: Palm Beach County Health Department
Department of Environmental Regulation-Tallahassee
David Buff, P. E.

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

CONSTRUCTION PERMIT

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

PERMIT NO. AC50-5177 DATE OF ISSUE 9-20-78

PURSUANT TO THE PROVISIONS OF SECTIONS 403.061 (16) AND 403.707 OF CHAPTER 403 FLORIDA STATUTES AND CHAPTERS 17-4 AND 17-7 FLORIDA ADMINISTRATIVE CODE, THIS PERMIT IS ISSUED TO:

Mr. A. R. Mayo, Vice President

FOR THE CONSTRUCTION OF THE FOLLOWING:

Boiler #5; Design steam production rate of 250,000 lbs/hr; Fired with bagasse and supplemental No. 6 fuel oil; Controlled by one Joy Turbulaire, Size 175, Type D, impingement scrubber.

LOCATED AT Bryant Sugar Mill, U. S. Route 98, Bryant, Palm Beach County UTM: East 537.7 North 2969.1

IN ACCORDANCE WITH THE APPLICATION DATED May 3, 1978

ANY CONDITIONS OR PROVISOS WHICH ARE ATTACHED HERETO ARE INCORPORATED INTO AND MADE A PART OF THIS PERMIT AS THOUGH FULLY SET FORTH HEREIN. FAILURE TO COMPLY WITH SAID CONDITIONS OR PROVISOS SHALL CONSTITUTE A VIOLATION OF THIS PERMIT AND SHALL SUBJECT THE APPLICANT TO SUCH CIVIL AND CRIMINAL PENALTIES AS PROVIDED BY LAW.

THIS PERMIT SHALL BE EFFECTIVE FROM THE DATE OF ISSUE UNTIL 9-20-80 OR UNLESS REVOKED OR SURRENDERED AND SHALL BE SUBJECT TO ALL LAWS OF THE STATE AND THE RULES AND REGULATIONS OF THE DEPARTMENT.

Philip R. Edwards
District Manager

JOSEPH W. LANDERS, JR.
SECRETARY

DER Form PERM 11-1 (Mar. 76)

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

CONSTRUCTION PERMIT PROVISOS

AIR POLLUTION SOURCES

Permit No. AC50-5177 Date: 9-20-78

(X) 1. Construction of this installation shall be completed by 9-20-79. Application for Permit to Operate to be submitted by 6-20-80.

(X) 2. This construction permit expires on 9-20-80 following an initial period of operation for appropriate testing to determine compliance with the Rules of the Florida Environmental Regulation Board.

(X) 3. All applicable rules of the Department including design discharge limitations specified in the application shall be adhered to. The permit holder may also need to comply with county, municipal, federal, or other state regulations prior to construction.

(X) 4. The applicant shall continue the retention of the engineer of record for the inspection of the construction of this project. Upon completion the engineer shall inspect for conformity to construction permit applications and associated documents. A report of such inspection shall be submitted by the engineer to the Dept. of Environmental Regulation for consideration toward the issuance of an operation permit.

(X) 5. This boiler shall be tested* for particulate matter and sulfur dioxide** within 30 days after it is placed in operation. These test results are required prior to our issuance of an operation permit and shall be submitted in duplicate to the DER SOUTH FLORIDA DISTRICT OFFICE, 2180 West First Street - Suite 401, Fort Myers, Florida 33901

*FUEL ANALYSIS MAY BE SUBMITTED FOR REQUIRED SULFUR DIOXIDE EMISSION TEST. ** - Fossil fuel only.

( ) 6. The operation of this installation shall be observed for visible emissions in accordance with Method 9 - Visible Determination of the Opacity of Emissions from Stationary Sources (36FR24895; Federal Register, December 23, 1971). The observation results are required prior to our issuance of an operation permit, and shall be submitted in duplicate to the DER SOUTH FLORIDA DISTRICT 2180 West First Street - Suite 401, Fort Myers, Florida 33901.

(X) 7. Satisfactory ladders, platforms, and other safety devices shall be provided/available as well as necessary ports to facilitate the carrying out of an adequate sampling program.

( ) 8. There shall be no discharges of liquid effluents or contaminated runoff from the plant site.

(X) 9. All fugitive dust generated at this site shall be adequately controlled.

(Continued)

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

CONSTRUCTION PERMIT PROVISOS

AIR POLLUTION SOURCES

Permit No. AC50-5177 Date: 9-20-78

(X) 10. The allowable emission rates for this boiler are as follows:

(a) Particulate Matter:	0.130 pounds per million BTU's heat input for carbonaceous fuel, plus 0.10 pounds per million BTU's heat input for fossil fuel.
(b) Sulfur Dioxide:	0.80 pounds per million BTU's heat input for fossil fuel.
(c) Visible Emissions:	Shall not exceed Ringleman Number 1.5 or an opacity of 30 percent, except that a density of Ringleman Number 2 or an opacity of 40 percent is permissible for not more than two minutes in any one hour.

(X) 11. This permit is issued conditioned upon U.S. Sugar Corporation accepting permit modifications to the existing bagasse fired boilers at the Bryant Mill. These permit modifications would restrict particulate emissions to 0.247 pounds per million BTU's heat input.

(X) 12. Ambient monitoring for particulate matter shall be conducted for the first operating season that the new boiler #5 is in operation. The location of the sampler shall be in the approximate area of expected maximum 24-hour ambient concentrations based upon the modeling study for this plant. Sampling shall be conducted using EPA reference methods. A program for monitoring indicating location, frequency, methods of collection and analysis, and quality assurance procedures shall be submitted to the Department within ninety (90) days of receipt of this permit. This program shall be subject to Department approval.

2100 WEST FIRST STREET
SUITE 401
FORT MYERS, FLORIDA 33901

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

PHILIP R. EDWARDS
DISTRICT MANAGER

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTH FLORIDA DISTRICT

August 15, 1979

CERTIFIED MAIL #4095925

Mr. A.R. Mayo
Vice President
U.S. Sugar Corporation
P.O. Drawer 1207
Clewiston, Fl. 33440

Re: Palm Beach Co - AP
US Sugar Corp.
Boiler #5
AC50-5177

Dear Mr. Mayo:

In response to the stipulation entered into between the Department and U.S. Sugar Corporation, Construction Permit AC50-5177 is modified as follows:

1. Condition #10: The allowable emission rates for this boiler are as follows:

a.	Particulate Matter:	0.150 pounds per million BTU's heat input for carbonaceous fuel, plus 0.10 pounds per million BTU's heat input for fossil fuel.
b.	Sulfur Dioxide:	Limitation remains as originally issued.
c.	Visible Emissions:	Limitations remain as originally issued.

2. Condition #11: The original condition is deleted.

All other conditions remain as originally issued.

Should you object to these permit modifications, you may file an appropriate petition for an administrative hearing. This petition must be filed within fourteen (14) days of receipt of this letter and must conform to the requirements of Section 28-5.15, Florida Administrative Code (copy enclosed). The petition must be filed with the Office of General Counsel, Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32301. If no petition is filed within the prescribed time, you will be deemed to have accepted this permit modification and waived your right to request an administrative hearing on this matter.

Your continued cooperation in this matter will be appreciated.

Sincerely,

Philip R. Edwards

Philip R. Edwards
District Manager

Encl

PRE/TWD/hi

cc: Mary Clark
Palm Beach Co Health Dept
William H. Green

file copy

HOPPING BOYD GREEN & SAMS
ATTORNEYS AND COUNSELORS
SUITE 420, FIRST FLORIDA BANK BUILDING
POST OFFICE BOX 6526
TALLAHASSEE, FLORIDA 32314
(904) 222-7500

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CHERYL G. STUART

OF COUNSEL
W. ROBERT FOKES

April 19, 1988

BY HAND DELIVERY

Clair Fancy, P.E.
Bureau of Air Quality Management
Florida Department of Environmental
Regulation
2600 Blair Stone Road, Room 338
Tallahassee, Florida 32399-2400

Re: U. S. Sugar Corporation
Bryant Mill Boiler No. 5
Air Construction Permit No. AC50-137573

Dear Mr. Fancy:

My letters of March 22 and 24, 1988 suggested certain changes in the wording of several of the specific conditions contained in the referenced permit as proposed by the Department. I am writing now to suggest one additional revision that Peter Barquin of U. S. Sugar Corporation has previously discussed with Willard Hanks of your staff. Specifically, U. S. Sugar requests that the following language be added to Specific Condition 2. of the permit:

> 2. Heat input from No. 6 residual oil shall not exceed 215.6 MMBtu/hr (approximately 1,467 GPH) and 400,000 gallons per season. Sulfur content of the fuel oil shall not exceed 0.7%. Fuel blending, procuring an amount of 0.7% sulfur fuel oil equal to the amount consumed by Boiler No. 5 and mixing with other plant fuel oil, will be acceptable. [No change to remaining language as proposed.]

U. S. Sugar's consultant has discussed inclusion of this sentence regarding fuel oil blending in the federal PSD permit for Bryant Boiler No. 5 with staff of EPA's Region IV office. As indicated in the attached copy of David Buff's letter to Bruce Miller, it appears that Region IV finds the

4.21.88

~~CHF~~
~~[redacted]~~ } FYI

(M)

language to be acceptable. We hope that the Bureau concurs and that the fuel blending option is incorporated in the Department's final permit.

As requested by Mr. Hanks, attached please find a waiver of the 90 day deadline for action on the permit to allow time for resolving the fuel blending question.

The continued consideration of you and your staff on this matter is greatly appreciated. Please do not hesitate to call me if you have any questions.

Sincerely,

Peter C. Cunningham

Peter C. Cunningham GBB

PCC/gb

cc: Willard Hanks
A. R. Mayo
Peter Barquin

Attachments

Copied: Willard Hanks
CHF/BT
Bruce Miller, USEPA } 4-21-88

KBN

April 15, 1988
88005

Mr. Bruce P. Miller, Chief
Air Programs Branch
U.S. Environmental Protection Agency
345 Courtland Street
Atlanta, GA 30308

Re: U.S. Sugar Corporation- Bryant Boiler No. 5

Dear Mr. Miller:

On behalf of U.S. Sugar Corporation, I have had several recent discussions with Michael Brandon of your staff concerning the above referenced permit application. The discussions focused on specific permit conditions which would insure that the maximum allowable emissions from the facility would not be exceeded, considering the seasonal operation of the sugar industry, the types of fuels used, and other aspects which are unique to the sugar industry. As a result of these discussions, agreement was reached on content of specific permit conditions which would be acceptable to USEPA and acceptable to U.S. Sugar. The proposed specific conditions are enumerated below.

* On an ANNUAL basis, maximum steam production will be limited to 990,676,512 lb/yr (or its equivalent heat output if operated at less than 850 psig, 900°F). The boiler will not burn more than 400,000 gallons of fuel oil per year.

* On a 24-HOUR AVERAGE basis, maximum steam production will be limited to 280,804 lb/hr (or its equivalent heat output if operated at less than 850 psig, 900°F). Maximum heat input to the boiler will not exceed 583.0 x 10^6 Btu/hr.

* On a 1-HOUR AVERAGE basis, maximum steam production will be limited to 323,189 lb/hr (or its equivalent heat output if operated at less than 850 psig, 900°F). Maximum heat input to the boiler will not exceed 671.0 x 10^6 Btu/hr.

* Sulfur content of fuel oil shall not exceed 0.7%. Fuel blending, procuring an amount of 0.7% sulfur fuel oil equal to the amount consumed by Boiler No. 5 and mixing with other plant fuel oil, will be acceptable. Suitable documentation to verify sulfur content and quantity of fuel oil received and quantity of fuel oil consumed in Boiler No. 5 shall be available at the plant site for inspection. Maximum heat input to the boiler due to fuel oil burning will not exceed 215.6 Btu/hr (1,467 gal/hr).

KBN ENGINEERING AND APPLIED SCIENCES, INC.
P.O. Box 14288 5700 SW 34th Street Gainesville, FL 32604 904/375-8000 Telex: 984689 KBN ENG UD

We understand that these conditions will be included in the revision to the federal PSD permit for Bryant Boiler No. 5 to be issued by EPA following modifications of the state permit.

Thank you for your cooperation in arriving at these mutually acceptable conditions. Please call if you have any questions or need further discussion.

Sincerely,

David A. Buff

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

cc: A R. Mayo
Peter Cunningham

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

WAIVER OF 90 DAY TIME LIMIT
UNDER SECTIONS 120.60(2) AND 403.0876, FLORIDA STATUTES

License (Permit, Certification) Application No. AC50-137573

Applicant's Name: U. S. Sugar Corporation

The undersigned has read Sections 120.60(2) and 403.0876, Florida Statutes, and fully understands the applicant's rights under that section.

With regard to the above reference license (permit, certification) application, the applicant hereby with full knowledge and understanding of (his) (her) (its) rights under Sections 120.60(2) and 403.0876, Florida Statutes, waives the right under Sections 120.60(2) and 403.0876, Florida Statutes, to have the application approved or denied by the State of Florida Department of Environmental Regulation within the 90 day time period prescribed in Sections 120.60(2) and 403.0876, Florida Statutes. Said waiver is made freely and voluntarily by the applicant, is in (his) (her) (its) self-interest, and without any pressure or coercion by anyone employed by the State of Florida Department of Environmental Regulation.

This waiver shall expire on the 15th day of June 1988.

The undersigned is authorized to make this waiver on behalf of the applicant.

Signature

Peter C. Cunningham
Hopping Boyd Green & Sams
Please Type Name of Signee
P. O. Box 6526, Tallahassee, FL 32314
(904) 222-7500 4/19/88
Date

Sworn to, subscribed before me this 19th day of April 1988.

Notary Public

My Commission expires:

Notary Public, State of Florida
My Commission Expires May 11, 1990
Bonded Thru Troy Fain-Insurance Inc.

DER Form 17-1.201(8)
Effective November 30, 1982

Section 120.60, Florida Statutes

(2) When an application for a license is made as required by law, the agency shall conduct the proceedings required with reasonable dispatch and with due regard to the rights and privileges of all affected parties or aggrieved persons. Within 30 days after receipt of an application for a license, the agency shall examine the application, notify the applicant of any apparent errors or omissions, and request any additional information the agency is permitted by law to require. Failure to correct an error or omission or to supply additional information shall not be grounds for denial of the license unless the agency timely notified the applicant within this 30 day period. The agency shall notify the applicant if the activity for which he seeks a license is exempt from the licensing requirement and return any tendered application fee within 30 days after receipt of the original application or within 10 days after receipt of the timely requested additional information or correction of errors or omissions. Every application for license shall be approved or denied within 90 days after receipt of the original application or receipt of the timely requested additional information or correction of errors or omissions unless a shorter period of time for agency action is provided by law. The 90-day or shorter time period shall be tolled by the initiation of a proceeding under Section 120.57 and shall resume 10 days after the recommended order is submitted to the agency and the parties. Any application for a license not approved or denied within the 90-day period or shorter time period, within 15 days after conclusion of a public hearing held on the application, or within 45 days after the recommended order is submitted to the agency and the parties, whichever is latest, shall be deemed approved and, subject to the satisfactory completion of an examination, if required as prerequisite to licensure, the license shall be issued. The Public Service Commission, when issuing a license, and any other agency, if specifically exempted by law, shall be exempt from the time limitations within this subsection. Each agency, upon issuing or denying a license, shall state with particularity the grounds or basis for the issuance or denial of same, except where issuance is a ministerial act. On denial of a license application on which there has been no hearing, the denying agency shall inform the applicant of any right to a hearing pursuant to Section 120.57.

Section 403.0876, Florida Statutes

Permits; processing. ---Within 30 days after receipt of an application for a permit under this chapter, the department shall review the application and shall request submittal of all additional information the department is permitted by law to require. If the applicant believes any departmental request for additional information is not authorized by law or departmental rule, the applicant may request a hearing pursuant to s. 120.57. Within 30 days after receipt of such additional information, the department shall review it and may request only that information needed to clarify such additional information or to answer new questions raised by or directly related to such additional information. If the applicant believes the request of the department for such additional information is not authorized by law or departmental rule, the department, at the aplicant's request, shall proceed to process the permit application. Permits shall be approved or denied within 90 days after receipt of the original application, the last item of timely requested additional material, or the applicant's written request to begin processing the permit application.

HOPPING BOYD GREEN & SAMS
ATTORNEYS AND COUNSELORS
SUITE 420, FIRST FLORIDA BANK BUILDING
POST OFFICE BOX 6526
TALLAHASSEE, FLORIDA 32314
(904) 222-7500

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OF COUNSEL
W. ROBERT FOKES

April 19, 1988

BY HAND DELIVERY

RECEIVED
APR 19 1988
DER-BAQM

Dale H. Twachtmann, Secretary
c/o Office of General Counsel
Florida Department of Environmental Regulation
2600 Blair Stone Road, Room 654
Tallahassee, Florida 32399-2400

Re: U. S. Sugar Corporation
Bryant Mill Boiler No. 5
Permit No. AC50-137573

Dear Secretary Twachtmann:

On February 8, 1988, U. S. Sugar Corporation, received the Department's Intent to Issue the above-referenced air construction permit, which would authorize an increase in the production capacity of Boiler No. 5 at its Bryant Mill. The proposed permit was issued by the Department's Bureau of Air Quality Management, along with a Technical Evaluation and Preliminary Determination. Pursuant to your order dated March 29, 1988, U. S. Sugar has until April 22, 1988 to file a petition for administrative proceedings regarding the Department's Intent to Issue Permit No. AC50-137573 ("the proposed permit").

I am writing on behalf of U. S. Sugar Corporation to request an additional extension, to and including June 15, 1988, in which to file a petition for administrative proceedings regarding the proposed permit. This request is made pursuant to Florida Administrative Code Rule 17-103.070, which provides that a timely request for extension of time shall toll the running of the time period in which to file an appropriate petition. As good cause for granting the requested extension of time for filing, U. S. Sugar would show the following:

1. The proposed permit would authorize an increase in the production capacity of an existing bagasse-fired boiler previously permitted by the Department. The proposed permit contains thirteen specific conditions, and U. S. Sugar believes several of the permit provisions may benefit from revision or are in need of clarification.

2. Peter Barquin of U. S. Sugar has discussed suggested changes in the wording of the proposed permit conditions with Willard Hanks of the Bureau of Air Quality Management. Based upon that discussion, it appears probable that the parties will be able to reach agreement on these conditions. U. S. Sugar's specific recommendations for revision of the permit language are contained in my letters to Clair Fancy of March 22 and 24, 1988.

3. U. S. Sugar has recently identified one other desired revision to the permit conditions proposed by the Department. Mr. Barquin has discussed the permit condition in question with Mr. Hanks, and U. S. Sugar's consultant has discussed the matter with staff of the U. S. Environmental Protection Agency's Region IV office.

4. In view of the need to resolve the permit condition language with both the U. S. Environmental Protection Agency and the Department, an extension of time until June 15, 1988 is warranted. In accordance with the request of Bureau of Air Quality Management staff, a waiver of the 90 day deadline for action on the permit has been executed on behalf of U. S. Sugar and submitted to the Department.

5. This request is filed as a protective measure to avoid waiver of U. S. Sugar's rights to challenge any provision of the proposed permit. Grant of this request will allow the parties an opportunity to complete discussion of the permit conditions of interest and to achieve a mutually acceptable resolution of U. S. Sugar's concerns without the need for initiation of formal administrative proceedings.

I hereby certify that I have spoken with Willard Hanks, of the Department's Bureau of Air Quality Management, and that he is in agreement with the grant of this request.

Accordingly, I respectfully request that you formally extend the time for filing of a petition for administrative

proceedings in regard to the Department's proposed agency action as embodied in its Intent to Issue Permit No. AC50-137573 to and including June 15, 1988.

Sincerely,

Peter C. Cunningham

Peter C. Cunningham

PCC/gb

cc: Betsy Pittman, Esquire
Clair Fancy
Willard Hanks
A. R. Mayo
Peter Barquin

Copied Willard Hanks
CHF | BT
Bruce Miller - U.S. EPA
4.21.88 AM

Hand Delivered File Copy

HOPPING BOYD GREEN & SAMS
ATTORNEYS AND COUNSELORS
SUITE 420, FIRST FLORIDA BANK BUILDING
POST OFFICE BOX 6526
TALLAHASSEE, FLORIDA 32314
(904) 222-7500

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ROBERT P. SMITH, JR.

JAMES S. ALVES
KATHLEEN BLIZZARD
ANNE W. CLAUSSEN
THOMAS M. DEROSE
ELEANOR M. HUNTER
DAVID L. POWELL
CHERYL G. STUART

OF COUNSEL
W. ROBERT FOKES

March 24, 1988

Clair Fancy, P.E.
Bureau of Air Quality Management
Florida Department of Environmental
Regulation
2600 Blair Stone Road, Room 338
Tallahassee, Florida 32399-2400

Re: United States Sugar Corporation
Bryant Mill Boiler No. 5
Air Construction Permit No. AC50-137573

Dear Clair:

My letter to you of March 22, 1988 contained changes in the referenced draft permit requested by U. S. Sugar Corporation. I am writing to correct a minor typographical error in that letter which has just come to my attention. The revised language suggested for the second paragraph of Specific Condition 4 of the permit should read as follows:

> All compliance tests shall be conducted while the boiler is operating within 10 percent of its permitted capacity ~~with bagasse fuel.~~; provided however, ~~I~~if the tests are conducted at less than 90% of the boiler's permitted capacity, the permittee shall notify the South Florida District Office and repeat the compliance tests when the steam production increases by 10% above the tested capacity. The South Florida District office shall be notified 15 days prior to any compliance test.

In my previous letter the words "with bagasse" in the third line of this paragraph should have been shown as deleted, but were inadvertently not struck through. With this correction, the condition would allow compliance tests to be conducted with the boiler burning some fuel oil if it proved necessary in order to achieve the desired production rate.

HOPPING BOYD GREEN & SAMS
POST OFFICE BOX 6526
TALLAHASSEE, FLORIDA 32314

3.28.88

~~Clair~~ > FYI

(ij)

Clair Fancy, P.E.
Bureau of Air Quality Management
Florida Department of Environmental
Regulation
2600 Blair Stone Road, Room 338
Tallahassee, Florida 32399-2400

Please consider my letter of March 22, 1988 to be amended by this letter, with the above correction to the requested language in Specific Condition 4 of the permit. I regret any inconvenience this may have caused.

Sincerely,

Peter C. Cunningham

PCC/gb

cc: Willard Hanks
Peter Barquin

Copied: Willard Hanks
CHF/BT } 3.28.88

HOPPING BOYD GREEN & SAMS
ATTORNEYS AND COUNSELORS
SUITE 420, FIRST FLORIDA BANK BUILDING
POST OFFICE BOX 6526
TALLAHASSEE, FLORIDA 32314
(904) 222-7500

CARLOS ALVAREZ
BRIAN H. BIBEAU
ELIZABETH C. BOWMAN
WILLIAM L. BOYD, IV
RICHARD S. BRIGHTMAN
PETER C. CUNNINGHAM
WILLIAM H. GREEN
WADE L. HOPPING
FRANK E. MATTHEWS
RICHARD D. MELSON
WILLIAM D. PRESTON
CAROLYN S. RAEPPLE
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ELEANOR M. HUNTER
DAVID L. POWELL
CHERYL G. STUART

OF COUNSEL
W. ROBERT FOKES

March 22, 1988

BY HAND DELIVERY

Dale H. Twachtmann, Esquire
c/o Office of General Counsel
Florida Department of Environmental
Regulation
2600 Blair Stone Road, Room 654
Tallahassee, Florida 32399-2400

Re: U. S. Sugar Corporation
Bryant Mill Boiler No. 5
Permit No. AC50-137573

Dear Secretary Twachtmann:

On February 8, 1988, U. S. Sugar Corporation, received the Department's Intent to Issue the above-referenced air construction permit, which would authorize an increase in the production capacity of Boiler No. 5 at its Bryant Mill. The proposed permit was issued by the Department's Bureau of Air Quality Management, along with a Technical Evaluation and Preliminary Determination. Pursuant to your order dated March 7, 1988, U. S. Sugar has until March 23, 1988 to file a petition for administrative proceedings regarding the Department's Intent to Issue Permit No. AC50-137573 ("the proposed permit").

I am writing on behalf of U. S. Sugar Corporation to request an extension of thirty (30) days, to and including April 22, 1988, in which to file a petition for administrative proceedings regarding the proposed permit. This request is made pursuant to Florida Administrative Code Rule 17-103.070, which provides that a timely request for extension of time shall toll the running of the time period in which to file an appropriate petition. As good cause for granting the requested extension of time for filing, U. S. Sugar would show the following:

1. The proposed permit would authorize an increase in the production capacity of an existing bagasse-fired boiler previously permitted by the Department. The proposed permit contains thirteen specific conditions, and U. S. Sugar believes several of the permit provisions may benefit from revision or are in need of clarification.

2. Peter Barquin of U. S. Sugar has discussed suggested changes in the wording of the proposed permit conditions with Willard Hanks of the Bureau of Air Quality Management. Based upon that discussion, it appears probable that the parties will be able to reach agreement on these conditions. U. S. Sugar's specific recommendations for revision of the permit language are contained in my letter to Clair Fancy of March 22, 1988 (copy attached).

3. This request is filed as a protective measure to avoid waiver of U. S. Sugar's rights to challenge any provision of the proposed permit. Grant of this request will allow the parties an opportunity to complete discussion of the permit conditions of interest and to achieve a mutually acceptable resolution of U. S. Sugar's concerns without the need for initiation of formal administrative proceedings.

I hereby certify that I have spoken with Clair Fancy, Deputy Chief of the Department's Bureau of Air Quality Management, and that he is in agreement with the grant of this request.

Accordingly, I respectfully request that you formally extend the time for filing of a petition for administrative proceedings in regard to the Department's proposed agency action as embodied in its Intent to Issue Permit No. AC50-137573 to and including April 22, 1988.

Sincerely,

Peter C. Cunningham

PCC/gb

cc: Betsy Pittman, Esquire
Clair Fancy
Willard Hanks
A. R. Mayo
Peter Barquin

Hand Delivered File Copy

HOPPING BOYD GREEN & SAMS

ATTORNEYS AND COUNSELORS

SUITE 420, FIRST FLORIDA BANK BUILDING

POST OFFICE BOX 6526

TALLAHASSEE, FLORIDA 32314

(904) 222-7500

CARLOS ALVAREZ
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PETER C. CUNNINGHAM
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ELEANOR M. HUNTER
DAVID L. POWELL
CHERYL G. STUART

OF COUNSEL
W. ROBERT FOKES

March 22, 1988

BY HAND DELIVERY

RECEIVED
MAR 23 1988
DER - BAQM

Clair Fancy, P.E.
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road, Room 338
Tallahassee, Florida 32399-2400

Re: United States Sugar Corporation
Bryant Mill Boiler No. 5
Air Construction Permit No. AC50-137573

Dear Mr. Fancy:

I am writing on behalf of United States Sugar Corporation ("U. S. Sugar") in regard to the referenced permit as proposed by the Department in its Intent to Issue dated February 3, 1988, and accompanying Technical Evaluation and Preliminary Determination. I would first like to express U. S. Sugar's appreciation for the expeditious manner in which the Bureau of Air Quality Management handled the review and processing of this permit. After reviewing the permit proposed by the Department, U. S. Sugar has identified several conditions that would benefit from clarification or slight revision. The changes in permit language suggested by U. S. Sugar are set forth below. Peter Barquin of U. S. Sugar recently discussed these changes with Willard Hanks of your staff.

Specific Condition 1

As proposed, this condition accurately reflects the increase in steam production requested by U. S. Sugar. While the steam production rates listed in this condition are correct for the stated steam pressure and temperature (850 psig, 900° F), Boiler No. 5 will occasionally be required to produce steam with lower pressure and temperature (400 psig, 750° F). Under these conditions, a steam production rate somewhat higher than the figures

32388

~~CHF~~
~~BE~~ > FYI

(G)

3/30

Willard:
make sure Betsy grants the extension. Can these issues be resolved?

Clair

Willard Hanks
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road, Room 338
Tallahassee, Florida 32399-2400

shown in this permit condition would be achievable with no increase in heat input. U. S. Sugar therefore recommends addition of the following language in Specific Condition 1 to address this potential situation:

> 1. Steam production, steam pressure, steam temperature, heat input, and bagasse consumption shall not exceed the following:
>
> | Steam PSIG | °F | Averaging Time | Steam Prod. lbs/hr | Heat Input* MMBTU/hour | Bagasse Consumption TPH-Wet |
> |---|---|---|---|---|---|
> | 850 | 900 | 1-hr max. | 323,189* | 671 | 93 |
> | 850 | 900 | 24-hr avg. | 280,804* | 583 | 81 |
>
> Steam production shall not exceed 990,676,512 lbs/yr.* The permittee shall maintain records (steam production, pressure, and temperature) to determine compliance with this condition. * Higher steam production reflecting an equivalent heat output shall be allowed if steam pressure and temperature are less than 850 psig and 900° F.

Specific Condition 3

As proposed, this condition would prohibit commercial operation of Boiler No. 5 from "May through October". U. S. Sugar requests the following clarification to reflect the potential for an early crop season; and to make this condition consistent with Specific Condition 13:

> 3. Boiler No. 5 shall not operate commercially during the period of May through October 15.

Specific Condition 4

The second paragraph of this condition addresses the capacity at which the boiler is to be operated during compliance testing. U. S. Sugar requests the following wording change to clarify the intent of this provision:

> 4. (No change to first paragraph.)

All compliance tests shall be conducted while the boiler is operating within 10 percent of its permitted capacity with bagasse ~~fuel.~~; provided however, ~~I~~if the tests are conducted at less than 90% of the boiler's permitted capacity, the permittee shall notify the South Florida District Office and repeat the compliance tests when the steam production increases by 10% above the tested capacity. The South Florida District office shall be notified 15 days prior to any compliance test.

Specific Condition 8

The first two paragraphs of this condition contain requirements for monitoring of various scrubber parameters at three-hour intervals. U. S. Sugar recommends that these requirements be based on four-hour intervals, to make them more compatible with normal eight hour shifts, as follows:

8. The scrubber controlling the emissions from Boiler No. 5 shall be equipped with instruments or the company shall be capable of measuring the gas pressure drop, water pressure, volume flow, and pH of the scrubber water. During one season of operation at the higher steam production rates, readings at ~~3~~ 4 hour intervals of the gas pressure drop shall be taken and logged for each day that Boiler No. 5 operates. If any ~~three~~ four hour average gas pressure drop falls more than twenty-five percent below the average pressure drop recorded during the compliance test, the Department may require a compliance test at the lower pressure drop and may also require the installation of an instrument to continuously measure and record the gas pressure drop.

Readings at ~~3~~ 4 hour intervals of the pH of the scrubber water shall be taken and logged for each day during which bagasse is burned in boiler No. 5 during its first season of operation following issuance of this construction permit. The Department will be notified if chemicals are used to adjust pH. If any ~~3~~ 4 hour average pH value falls more than ten percent below the pH that existed during the compliance test for sulfur dioxide, the Department may require the installation of an instrument to continuously measure and record scrubber water pH.

Specific Condition 13

This condition addresses provisions of the operation permit contemplated for Boiler No. 5 following expiration of the construction permit. To make the language consistent with the changes suggested above for Specific Condition 1 (regarding "equivalent heat output") and Specific Condition 8 (regarding monitoring of scrubber parameters), U. S. Sugar recommends the following revisions for Specific Condition 13:

> 13. Any permit to operate issued for Boiler No. 5 will limit operation to 990,676,512 lbs/yr steam production (or its equivalent heat output if the boiler is operated with steam pressure and temperature less than 850 psig and 900° F) between October 15 and May 1; require the scrubber to be operated at an ~~six~~ eight hour average pressure drop not less than 90 percent of the ~~six hour~~ average pressure drop that existed during the particulate matter tests that showed compliance or not less than 75% of ~~the average six hour~~ this pressure drop at any time; require, as a minimum, annual particulate matter and visible emissions tests; an annual operation report which will include the amount of oil burned 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. 8.

With the changes suggested above, U. S. Sugar would find the permit fully acceptable. Please do not hesitate to call Peter Barquin or me if you have any questions.

Your continued consideration in this matter is very much appreciated.

Sincerely,

Peter C. Cunningham

PCC/gb

cc: Willard Hanks
A. R. Mayo
Peter Barquin

Copied: Willard Hanks
CHF/BT } 3-23-88

PM
9 March 1988
Atlanta, GA

File Copy

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

MAR - 9 1988

AC 50-137573

4APT/APB-aes

RECEIVED

MAR 15 1988

DER - BAQM

Mr. C. H. Fancy, P.E.,
Deputy Chief
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: U.S. Sugar Corporation - Bryant Mill

Dear Mr. Fancy:

This is to acknowledge receipt of your February 3, 1988, technical evaluation and preliminary determination for the steam production increase at the above referenced facility's No. 5 bagasse boiler. We concur with your determination and will modify federal PSD permit PSD-FL-009 to reflect the change upon receipt of your final determination.

The proposed modifications to federal PSD permit PSD-FL-009 will include a fuel oil burn rate of 1,467 gallons per hour and a maximum sulfur dioxide emissions limit of 195 lbs per hour while burning bagasse and fuel oil. The hourly emission rate is based on a maximum emissions increase of 39.9 tons per year of sulfur dioxide averaged over 3,500 hours and added to the maximum sulfur dioxide emission rate determined from original permit conditions. The maximum 24 hour average steam production rate of 280,084 lb/hr will also be placed in the permit to conserve the integrity of the determination of nonapplicability for PM_{10} emissions. Conditions in the existing federal PSD permit regarding the maximum bagasse combustion and steam production while burning fuel oil will be deleted.

If you have any questions about the proposed federal PSD permit modification, you may contact Mr. Brandon at (404)347-2864.

Sincerely yours,

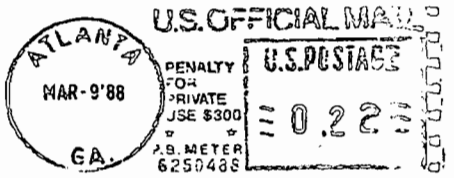
Bruce P. Miller

Bruce P. Miller, Chief
Air Programs Branch
Air, Pesticides, and Toxics
Management Division

Copied: Willard Hanks } 3.15.88
CHF/BT

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300
AIR-4



Mr. C. H. Fancy, P.E., Deputy Chief
Bureau of Air Quality Management
~~Twin Towers Office Building~~
2600 Blair Stone Road
Tallahassee, FL 32399-2400

3 15 88

CHF
FYI

PM
25 Feb 1988
Clewiston, FL

File Copy

UNITED STATES SUGAR CORPORATION

Post Office Drawer 1207 Clewiston, Florida 33440
Telephone: (813) 983-8121 Telex: 510-952-7753

February 25, 1988

Mr. C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Fancy:

We are enclosing affidavit of Proof of Publication certifying that the Notice of Intent forwarded to us with your February 3, 1988 letter was duly published in the legal advertising section of the February 22, 1988 issue of The Palm Beach Post.

Very truly yours,

UNITED STATES SUGAR CORPORATION

A. R. Mayo
Senior Vice President
Sugar Houses

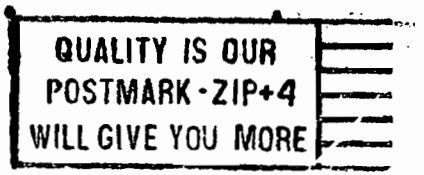
ARM:jt
Enclosure

cc: Mr. David Knowles
Mr. David Buff, P.E.
Mr. Peter Cunningham

Copied: Willard Hanks - 3/1/88 mm

UNITED STATES SUGAR CORPORATION
Post Office Drawer 1207
Clewiston, Florida 33440

Mr. C. H. Fancy, P.E.
Deputy Chief, Bureau of Air Quality Management
Department of Environmental Regulation
Twin Towers Office Bldg.
2600 Blair Stone Road
Tallahassee, Fl. 32399-2400



RECEIVED
FEB 29 1988
DER - BAQM

PM
25 Feb. 1988
Clewiston, FL

THE PALM BEACH POST

Published Daily and Sunday
West Palm Beach, Palm Beach County, Florida

PROOF OF PUBLICATION

STATE OF FLORIDA

COUNTY OF PALM BEACH

Before the undersigned authority personally appeared Barbara M. McCord who on oath says that she/he is Class. Adv. Mgr. of The Palm Beach Post, a daily and Sunday newspaper published at West Palm Beach in Palm Beach County, Florida; that the attached copy of advertising, being a Notice

in the matter of intent

in the --- Court, was published in said newspaper in the issues of February 22, 1988

Affiant further says that the said The Post is a newspaper published at West Palm Beach, in said Palm Beach County, Florida, and that the said newspaper has heretofore been continuously published in said Palm Beach County, Florida, daily and Sunday and has been entered as second class mail matter at the post office in West Palm Beach, in said Palm Beach County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that she/he has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Barbara M. McCord

Sworn to and subscribed before me this 22 day of February A.D. 19 88

Karen M. McLaughlin
NOTARY PUBLIC STATE OF FLORIDA
MY COMMISSION EXP. NOV 15,1988
BONDED THRU GENERAL INS. UND.

cc: Willard Hanks

NO. 819554
State of Florida
Department of
Environmental Regulation
Notice of Intent

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to U.S. Sugar Corporation to increase the steam production from boiler No. 5 at the Bryant Mill located on U.S. Route 98 in northwest Palm Beach County. The increased emissions from this boiler will not have a significant impact on the ambient air quality. A best available control technology determination was not required for this modification. The Department is issuing this intent to issue for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative determination (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 Department's Office of General Counsel, 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Failure to file a petition within this time period constitutes a waiver of any right such person has to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

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 proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Rule 28-5.207, Florida Administrative Code, 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 Apalaches Parkway, Tallahassee, 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 32399-2400. 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:

Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dept. of Environmental Regulation
South Florida District
2269 Bay Street
Ft. Myers, Florida 33901

Municipal Library
530 South Main Street
Belle Glade, Florida 33430

Palm Beach County Health Department
Division of Environmental Science and Engineering
901 E. Evernia Street
West Palm Beach, Florida 33402

Any person may send written comments on the proposed action to Mr. Bill Thomas at the Department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the Department's final determination.

PUB: The Palm Beach Post
February 22, 1988

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

	Initial	Date
1. TO: (NAME, OFFICE, LOCATION) CLAIR FANCY, BAQM		
2. Willard – FYI / FCO DER		
3. FEB 22		
4. BAQM		

REMARKS:

U. S. SUGAR CORP.

Boiler #4

A026-144701

INFORMATION

- Review & Return
- Review & File
- Initial & Forward

DISPOSITION

- Review & Respond
- Prepare Response
- For My Signature
- For Your Signature
- Let's Discuss
- Set Up Meeting
- Investigate & Report
- Initial & Forward
- Distribute
- Concurrence
- For Processing
- Initial & Return

FROM: JAMES ONI
FORT MYERS

DATE 2/18/88

PHONE Suncom 721-7900

2/28/88

~~CHF~~ BT > FYI

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

February 15, 1988

A. R. Mayo, Senior Vice President, Sugar Houses
United States Sugar Corporation
Post Office Drawer 1207
Clewiston, Florida 33440

RE: Hendry County - AP
U. S. Sugar Corporation
Boiler No. 4

Dear Mr. Mayo:

Enclosed is Permit Number AO26-144701 to operate a sugar processing plant, boiler Number 4, issued pursuant to Section(s) 403.087, Florida Statutes.

Persons whose substantial interests are affected by this permit have a right, pursuant to Section 120.57, Florida Statutes, to petition for an administrative determination (hearing) on it. The petition must conform to the requirements of Chapters 17-103 and 28-5.201, FAC, and must be filed (received) in the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee 32301, within fourteen (14) days of receipt of this notice. Failure to file a petition within the fourteen (14) days constitutes a waiver of any right such person has to an administrative determination (hearing) pursuant to Section 120.57, Florida Statutes. This permit is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with this paragraph or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rule 17-103.070, FAC. Upon timely filing of a petition or a request for an extension of time this permit will not be effective until further Order of the Department.

When the Order (Permit) is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of

Continued . . . . .

Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department.

Executed in Ft. Myers, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Philip R. Edwards

Philip R. Edwards
District Manager
2269 Bay Street
Ft. Myers, FL 33901-2896

PRE/OO/jsw

Copies furnished to:

David A. Buff, P.E.
DER - Tallahassee

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT and all copies were mailed before the close of business on Feb 18, 1988 to the listed persons.

Clerk Stamp

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

Joanne J. Johnson 2-18-88
CLERK DATE

Copied. Willard Hanks
CHF/BT } 2.23.88

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTH FLORIDA DISTRICT
2269 BAY STREET
FORT MYERS, FLORIDA 33901-2896
(813)332-2667

PERMITTEE: A. R. Mayo, Senior Vice Pres.,
Sugar Houses
United States Sugar Corp.
Post Office Drawer 1207
Clewiston, Florida 33440

I.D. Number: 52/26/0003/09
Permit/Certification Number: AO26-144701
Date of Issue: February 15, 1988
Expiration Date: February 15, 1993
County: Hendry
Latitude/Longitude:
26° 44' 05"N
80° 56' 19"W
Section/Township/Range: 21 & 22/43S/34E
Project: U. S. Sugar Corporation
Boiler No. 4

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

Operate Boiler Number 4 with a steam production capacity of 314,757 lbs/hr for a 6-hour average and a maximum 1-hour average of 346,231 lbs/hr at 850 psig, 900°F. Steam production capacity at 600 psig, 750°F is 335,000 lbs/hr for a 6-hour average and 368,500 lbs/hr for a maximum 1-hour average. Boiler is fired with bagasse and No. 6 residual oil having a combined heat input of 706.6 million BTU per hour for a 6-hour average and a maximum 1-hour average of 777.2 million BTU per hour. Emissions are controlled by one (1) Joy Turbulaire Spray Impingement Scrubber, Type D, Size 200. The permit contains 15 General Conditions and 17 Specific Conditions.

Plant is located near the intersection of W. C. Owens Avenue and Clewiston Street, Clewiston, Florida.

PERMITTEE: U. S. Sugar Corporation

I.D. Number: 52/26/0003/09
Permit/Certification Number: AO26-144701
Date of Issue: February 15, 1988
Expiration Date: February 15, 1993

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 Section 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 therefor 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.

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.

GENERAL CONDITIONS:

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 non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or 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.

GENERAL CONDITIONS:

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:

( ) Determination of Best Available Control Technology (BACT)
( ) Determination of Prevention of Significant Deterioration (PSD)
( ) Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)
( ) 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.

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.

PERMITTEE: U. S. Sugar Corporation

I.D. Number: 52/26/0003/09
Permit/Certification Number: AO26-144701
Date of Issue: February 15, 1988
Expiration Date: February 15, 1993

SPECIFIC CONDITIONS:

1. Steam production, steam pressure, steam temperature, heat input, and bagassee consumption shall not exceed the following:

Steam press.	Steam temp. °F	Avging. Time *	Steam Prod. lb/hr	Heat input 10^6 BTU/hr	Bagassee Consum. lbs/hr-wet
850	900	Max.	346,231	777.2	215,889
		6-hr avg.	314,757	706.6	196,264
600	750	Max.	368,500	777.2	215,889
		6-hr avg.	335,000	706.6	196,264

*Maximum is a 1 hour average.

2. Heat input from No. 6 residual oil shall not exceed 225 million BTU per hour which is approximately equivalent to 1,500 gallons per hour of oil and 150,000 pounds per hour of steam. The boiler shall be operated so that not more than two burners with two oil guns each (total of four oil guns) can be used with a total maximum capacity not to exceed the permitted oil input.

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.

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 are revised to include this limitation.

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 are revised to include this limitation.

6. All stationary fuel oil burning equipment at the plant shall be equipped with integrating fuel oil flow meters or continuous recorders to measure 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, unless oil consumption for the equipment is recorded continuously, and these records shall be kept for at least five years for Department inspection. Each meter shall be calibrated annually by a method approved by the Department.

SPECIFIC CONDITIONS:

7. A test shall be made on Boiler No. 4 to determine its actual thermal efficiency in accordance with the ASME short-form procedure each time the operating permit for this boiler is renewed. The test shall be done while the tubes are clean and within 14 days of the compliance test. A current report on the thermal efficiency test must be included with the application to operate this boiler.

8. The scrubber controlling the emissions from Boiler No. 4 which was built to Joy Manufacturing Company's specifications for their Turbulaire, Type D, Size 200 spray impingement scrubber shall be equipped with instruments to measure the gas pressure drop and pH of the scrubber water. Instruments to continuously record the scrubber water pressure and volumetric flow shall also be provided. During the first season of operation at the higher steam production rates, hourly readings of the gas pressure drop shall be taken and logged for each day that boiler No. 4 operates. The hourly data shall be converted into consecutive three hour averages. If any three hour average gas pressure drop falls more than ten percent below the average pressure drop recorded during the compliance test that showed compliance with the particulate matter standard, or any one hour reading is twenty-five percent below the average pressure drop recorded during the compliance test, the Department may also require the installation of an instrument to continuously measure and record the gas pressure drop.

Hourly readings of the pH of the scrubber water shall be taken and logged for each hour during which bagasse is burned in boiler No. 4 during its first 160 days of operation. The hourly data shall be converted into consecutive three hour averages. The Department will be notified if chemicals are used to adjust pH. If any three hour average pH value falls more than ten percent below the pH that existed during the compliance test for sulfur dioxide, the Department may require the installation of an instrument to continuously measure and record scrubber water pH.

During compliance testing, the scrubber parameters shall be measured and recorded at 15 minute intervals.

Records of the measurements required by this condition shall be obtained each day boiler No. 4 operates during the first 160 days and copies of the records transmitted to the South Florida District and Bureau of Air Quality Management at the end of the season(s).

After review of the first 160 days of data, the Bureau of Air Quality Management and the South Florida District will establish the scrubber parameters to be monitored and the frequency of monitoring. These requirements shall become a condition to any permit to operate issued to boiler No. 4. The records required by the permit to operate shall be kept for five years for agency inspection.

SPECIFIC CONDITIONS:

9. 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 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. The compliance test results shall be calculated by assuming the thermal efficiency of boiler No. 4 is 55 percent, or any new method subsequently adopted by Department rule. For informational purposes only, the particulate matter emission rate shall also be calculated by utilizing both the F factor (for each compliance test) and the short term ASME boiler efficiency test results (once every five years). Scrubber parameters listed in Specific Condition No. 8 shall be recoreded every 15 minutes or continuously during the compliance test.

All compliance tests shall be conducted while the boiler is operating within 10 percent of its maximum or permitted capacity, whichever is lower. Such tests shall be conducted once per year commencing before February 15th. Results shall be submitted to the Department within 45 days after testing. The South Florida District office shall be notified 15 days prior to any compliance test to allow witnessing.

10. 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 the standard shall be determined by DER Method 9 as described in Chapter 17-2, FAC. The particulate matter emissions and visible emissions shall be determined concurrently. Under circumstances when this is not feasible, the company shall obtain prior approval from the South Florida District to conduct the tests at separate times. In such circumstances, the tests shall be conducted as close to each other as is feasible.

11. Any No. 6 residual fuel oil burned in this boiler shall contain no more than 2.50 percent sulfur and shall be replaced during the season in which it is burned with fuel oil containing no more that 1.50 percent sulfur. Compliance with this condition shall be determined from certified analysis of the replacement oil by ASTM Method D-129. Records of the quantity and analysis of fuel oil consumed in boiler No. 4 and invoices for the oil purchased shall be kept for a minimum of five years for regulatory agency inspection.

12. Sulfur dioxide emissions from boiler No. 4, while it is burning 100 percent bagasse fuel, shall not exceed 0.166 lb/million BTU heat input as determined by EPA Method 6 as described in 40 CFR 60, Appendix A. The compliance test results shall be calculated by assuming the thermal efficiency of Boiler No. 4 is 55 percent, or any new method subsequently adopted by Department rule. For informational purposes

SPECIFIC CONDITIONS:

only, the sulfur dioxide emission rate shall also be calculated by utilizing both the F factor (for each compliance test) and the short term ASME boiler efficiency test results (once every five years). Scrubber parameters listed in Specific Condition No. 8 shall be recorded every 15 minutes or continuously durng the compliance test.

The compliance test shall be conducted while the boiler is operating within 10 percent of its maximum or permitted capacity, whichever is lower. Such test shall be conducted prior to the expiration date of this permit and the result submitted with the application for renewal of permit. Annual tests may be required if Department inspections show a need for such tests. Results shall be submitted to the Department within 45 days after testing. The South Florida District office shall be notified 15 days prior to any compliance test to allow witnessing.

Sulfur dioxide emissions from boiler No. 4, while it is burning a mixture of oil and bagasse, shall not exceed 680 lb/hr.

13. 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 wet bagasse as determined by EPA Method 25. These test methods are described in 40 CFR 60, Appendix A. Compliance test for these pollutants will not be required if the visible emissions from boiler No. 4 are below 20 percent opacity.

14. Visible emissions from the bagassee handling systems shall not exceed 10 percent opacity over any 6 minute period as measured by EPA Reference Method 9, provided, however, that this visible emissions limit shall not apply during periods of high winds (wind speed of 18 miles per hour or greater) if reasonable precautions (covered conveyors, windbreaks, and the height of drop points are minimized) to control fugitive emissions have been taken. The company shall maintain a meteorlogical instrument to record the wind speed at the plant which shall be located at its Research Center, about one mile north of the Clewiston Mill.

15. Nitrogen oxides emissions, expressed as NO_2, shall not exceed 192.4 lb/hr (max.) and 180.7 lb/hr (6 hr avg.) 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 opitimized the NO_x emissions for the compliance tests specified in this specific condition if the initial Method 7 test show compliance.

16. Any permit to operate issued for Boiler No. 4 will limit operation to 160 days per season; require the scrubber to be operated at a six hour average pressure drop not less than 90 percent of the six hour average pressure drop that existed during the particulate matter test that showed compliance or not less than 75 percent of the average six hour pressure drop at any time; require, as a minimum, annual

PERMITTEE: U. S. Sugar Corporation

I.D. Number: 52/26/0003/09
Permit/Certification Number: AO26-144701
Date of Issue: February 15, 1988
Expiration Date: February 15, 1993

SPECIFIC CONDITIONS:

particulate matter and visisble 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. 8.

17. Stack sampling facilities provided by the owner shall be in accordance with the requirements of Chapter 17-2.700(4), Florida Administrative Code.

Issued this 15th day of February, 1988

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Philip R. Edwards
District Manager

PRE/OO/jsw

11 Pages Attached

DER - Tallahassee

S. FLA. DISTRICT

6375

pd #520

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

AIR POLLUTION SOURCES
CERTIFICATE OF COMPLETION OF CONSTRUCTION*

PERMIT NO. AC26-126965 DATE: February 16, 1987

Company Name: U.S. Sugar Corporation County: Hendry

Source Identification(s): Clewiston Boiler No. 4

Actual costs of serving pollution control purpose: $ 300,000

Operating Rates: 314,757 lb/hr steam @ 850 psig, 900°F* 335,000 lb/hr steam @ 600 psig, 750°F* Design Capacity: 300,000 lb/hr steam @ 875 psig, 900°F

Expected Normal 280,000 lb/hr steam @ 850 psig, 900°F 300,000 lb/hr steam @ 600 psig, 750°F During Compliance Test 311,769 lb/hr steam @ 600 psig, 750°F

Date of Compliance Test: January 25, 1988 (Attach detailed test report)

Test Results:

Pollutant	Actual Discharge	Allowed Discharge
Particulate Matter	0.11 lb/10^6 Btu	0.15 lb/10^6 Btu bagasse
Visible emissions	< 20%	20% opacity, except 40% opacity for 2 minutes per hour.

Date plant placed in operation: March 1985

This is to certify that, with the exception of deviations noted**, the construction of the project has been completed in accordance with the application to construct and Construction Permit No. AC26-126965 dated February 16, 1987.

A. Applicant: Senior A. R. Mayo, Vice President
Name of Person Signing (Type)

A. R. Mayo
Signature of Owner or Authorized Representative and Title

Date: 1-28-88 Telephone: (813) 983-8121

B. Professional Engineer:
David A. Buff
Name of Person Signing (Type)

David A. Buff
Signature of Professional Engineer

KBN Engineering and Applied Sciences, Inc.
Company Name

Florida Registration No. 19011

Date: January 28, 1988

(Seal)

P.O. Box 14288, Gainesville, FL 32604
Mailing Address

(904) 375-8000
Telephone Number

*This form, satisfactorily completed, submitted in conjunction with an existing application to construct permit and payment of application processing fee will be accepted in lieu of an application to operate.

**As built, if not built as indicated include process flow sketch, plot plan sketch, and updates of applicable pages of application form.

* This is a dual pressure boiler. This boiler can operate at either condition with a heat input rate of 706.6 x 10^6 Btu/hr, 6-hour average, and at 777.2 x 10^6 Btu/hr, maximum 1-hour average, equivalent to 346,231 lb/hr steam at the higher pressure condition, and at 368,500 lb/hr steam at 600 psig, 750°F.

Hand Delivered
Feb. 22, 1988

File Copy

HOPPING BOYD GREEN & SAMS
ATTORNEYS AND COUNSELORS
SUITE 420, FIRST FLORIDA BANK BUILDING
POST OFFICE BOX 6526
TALLAHASSEE, FLORIDA 32314
(904) 222-7500

CARLOS ALVAREZ
BRIAN H. BIBEAU
ELIZABETH C. BOWMAN
WILLIAM L. BOYD, IV
RICHARD S. BRIGHTMAN
PETER C. CUNNINGHAM
WILLIAM H. GREEN
WADE L. HOPPING
FRANK E. MATTHEWS
RICHARD D. MELSON
WILLIAM D. PRESTON
CAROLYN S. RAEPPLE
GARY P. SAMS
ROBERT P. SMITH, JR.

JAMES S. ALVES
KATHLEEN BLIZZARD
ANNE W CLAUSSEN
THOMAS M. DEROSE
ELEANOR M. HUNTER
DAVID L. POWELL
CHERYL G. STUART

OF COUNSEL
W. ROBERT FOKES

RECEIVED
FEB 22 1988
DER-BAQM

February 22, 1988

BY HAND DELIVERY

Dale H. Twachtmann, Esquire
c/o Office of General Counsel
Florida Department of Environmental
Regulation
2600 Blair Stone Road, Room 654
Tallahassee, Florida 32399-2400

Re: U. S. Sugar Corporation
Bryant Mill Boiler No. 5
Permit No. AC50-137573

Dear Secretary Twachtmann:

On February 8, 1988, U. S. Sugar Corporation, received the Department's Intent to Issue the above-referenced air construction permit, which would authorize an increase in the production capacity of Boiler No. 4 at its Bryant Mill. The proposed permit was issued by the Department's Bureau of Air Quality Management, along with a Technical Evaluation and Preliminary Determination. Pursuant to Florida Administrative Code Rule 17-103.155 and the Intent to Issue, U. S. Sugar has until February 22, 1988 to file a petition for administrative proceedings regarding the Department's Intent to Issue Permit No. AC50-137573 ("the proposed permit").

I am writing on behalf of U. S. Sugar Corporation to request an extension of thirty (30) days, to and including March 23, 1988, in which to file a petition for administrative proceedings regarding the proposed permit. This request is made pursuant to Florida Administrative Code Rule 17-103.070, which provides that a timely request for extension of time shall toll the running of the time period in which to file an appropriate petition. As good cause for granting the requested extension of time for filing, U. S. Sugar would show the following:

HOPPING BOYD GREEN & SAMS
POST OFFICE BOX 6526
TALLAHASSEE, FLORIDA 32314

Clair Fancy
Bureau of Air Quality Management
Florida Department of Environmental
Regulation
2600 Blair Stone Road, Room 338
Tallahassee, Florida 32399-2400

1. The proposed permit would authorize an increase in the production capacity of an existing bagasse-fired boiler previously permitted by the Department. The proposed permit contains thirteen specific conditions, and U. S. Sugar believes several of the permit provisions may benefit from revision or are in need of clarification.

2. This request is filed as a protective measure to avoid waiver of U. S. Sugar's rights to challenge any provision of the proposed permit. Grant of this request will allow the parties an opportunity to discuss the permit conditions of interest and to achieve a mutually acceptable resolution of U. S. Sugar's concerns without the need for initiation of formal administrative proceedings.

I hereby certify that I have spoken with Clair Fancy, Deputy Chief of the Department's Bureau of Air Quality Management, and that he is in agreement with the grant of this request.

Accordingly, I respectfully request that you formally extend the time for filing of a petition for administrative proceedings in regard to the Department's proposed agency action as embodied in its Intent to Issue Permit No. AC50-137573 to and including March 23, 1988.

Sincerely,

Peter C. Cunningham

PCC/gb

cc: Betsy Pittman, Esquire
Clair Fancy
Willard Hanks } 2.23.88 (mr)
A. R. Mayo

PM
2 Feb 1988
Atlanta, GA

File Copy

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

FEB - 2 1988

4APT/APB-am

DER
FEB 4, 1988
BAQM

Mr. C. H. Fancy, P. E., Chief
Brueau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: United States Sugar Corporation, Bagasse Boiler No. 5 (PSD-FL-009)

Dear Mr. Fancy:

This is to acknowledge receipt of your December 23, 1987, letter of transmittal for the above referenced company's addendum dated December 18, 1987, to their application for modification of Federal PSD permit PSD-FL-009. We have reviewed the additional information as it pertains to our September 1, 1987, letter of comment and have no further questions at this time.

Please submit copies of the technical evaluation and proposed permit revisions when issued.

Sincerely yours,

Bruce P. Miller

Bruce P. Miller, Chief
Air Programs Branch
Air, Pesticides, and Toxics
Management Division

Copied: Willard Hanbal
CHF/BT
David Krawiec - SEFL
Gene Sacco - PBC HD
2.5.88

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

U.S. OFFICIAL MAIL
ATLANTA GA. FEB-2'88
PENALTY FOR PRIVATE USE $300
U.S. POSTAGE 0.22
P.B. METER 6250488

AIR-4

Mr. C. H. Fancy, P.E., Chief
Bureau of Air Quality Management
~~Twin Towers Office Building~~
2600 Blair Stone Road
Tallahassee, FL 32399-2400

02-08-88

~~CHF~~
~~BS~~ } FYI

20

PM
2 Feb 1988
Atlanta, GA

File Copy

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

FEB - 2 1988

4APT/APB-am

DER

FEB 4, 1988

AQM

Mr. A. R. Mayo
Senior Vice President
Sugar Houses
United States Sugar Corporation
P. O. Drawer 1207
Clewston, Florida 33440

Re: No. 5 Bagasse Boiler Steam Production Increase

Dear Mr. Mayo:

This is to acknowledge receipt of your December 18, 1987, revised application for the modification of Federal PSD permit PSD-FL-009 requesting a steam production increase at the Bryant Mill No. 5 bagasse boiler. We have reviewed the application and find that it satisfactorily addresses our concerns submitted to the Florida Department of Environmental Regulation (DER) on September 1, 1987. We will proceed to modify Federal PSD permit PSD-FL-009 to accommodate the steam production increase upon receipt of the technical evaluation and determinations from the Florida DER.

If you have any questions, you may contact Mr. Michael Brandon of my staff at (404) 347-2864.

Sincerely yours,

Bruce P. Miller

Bruce P. Miller, Chief
Air Programs Branch
Air, Pesticides, and Toxics
Management Division

cc: Mr. C. H. Fancy, P. E., Chief
Bureau of Air Quality Managment
Florida Department of Environmental Regulation

Copied: Willard Hanks
CHF/BT
David Knowles - SEFL
Gene Socce - PBC HD
2.5.88 mg

02-08-88

[redacted] } FYI

(ij)

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. [X] Show to whom delivered, date, and addressee's address. 2. [ ] Restricted Delivery.

3. Article Addressed to:
Mr. A.R. Mayo
Senior Vice President
U.S. Sugar Corporation
P.O. Drawer 1207
Clewiston, FL 33440

4. Article Number
P 274 010 446

Type of Service:
[ ] Registered [X] Certified [ ] Express Mail
[ ] Insured [ ] COD

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee
X

6. Signature — Agent
X A.R. Mayo

7. Date of Delivery
2/8/88

8. Addressee's Address *(ONLY if requested and fee paid)*

PS Form 3811, Feb. 1986 DOMESTIC RETURN RECEIPT

P 274 010 446

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent R. Mayo, Sr. V.P.
U.S. Sugar Corp.
Street and No. P.O. Drawer 1207
P.O., State and ZIP Code Clewiston, FL 33440

Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date	Mailed: 02/04/88 Permit: AC 50-137573

PS Form 3800, June 1985 ☆ U.S.G.P.O. 1985-480-794

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

February 3, 1988

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. A. R. Mayo, Senior Vice President
U.S. Sugar Corporation
P. O. Drawer 1207
Clewiston, Florida 33440

Dear Mayo:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permit for U.S. Sugar Corporation to increase the steam production of the No. 5 boiler at the Bryant Mill.

Please submit, in writing, any comments which you wish to have considered concerning the Department's proposed action to Mr. Bill Thomas of the Bureau of Air Quality Management.

Sincerely,

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/bm

Attachments

cc: D. Knowles, SF District
D. Buff, P.E.
B. Miller, EPA
G. Sacco, PBCHD

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Applications for Permits by:

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

DER File No. AC 50-137573

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit (copy attached) for the proposed project as detailed in the applications specified above. The Department is issuing this Intent to Issue for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, U.S. Sugar Corporation, applied on July 13, 1987, to the Department of Environmental Regulation for a permit to construct which would authorize higher steam production of the existing No. 5 Boiler located at the Bryant Mill. This mill is located in northwest Palm Beach County on U.S. Route 98, Bryant, Florida. The original application was replaced with one that was received on December 21, 1987, and is the basis of this determination. The Department has permitting jurisdiction under Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that an air construction permit was needed for the proposed work.

Pursuant to Section 403.815, F.S. and DER Rule 17-103.150, FAC, you (the applicant) are required to publish at your own expense the enclosed Notice of Proposed Agency Action on permit applications. The notice must be published one time only in a section of a major local newspaper of general circulation in the county in which the project is located and within thirty (30) days from receipt of this intent. Proof of publication must be provided to the Department within seven days of publication of the notice. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permits.

The Department will issue the permits with the attached conditions unless petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S. A person 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. Petitions must comply with the

requirement of Florida Administrative Code Rules 17-103.155 and 28-5.201 (copy enclosed) and be filed with (received by) the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant must be filed within fourteen (14) days of receipt of this intent. Petitions filed by other persons must be filed within fourteen (14) days of publication of the public notice or within fourteen (14) days of receipt of this intent, whichever first occurs. Failure to file a petition 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 Statutes, concerning the subject permit application. Petitions which are not filed in accordance with the above provisions will be dismissed.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

Copies furnished to:

D. Knowles, SF District
D. Buff, P.E.
B. Miller, EPA
G. Sacco, PBCHD

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.

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF INTENT TO ISSUE and all copies were mailed before the close of business on February 4, 1988.

FILING AND ACKNOWLEDGEMENT
FILED, on this date, pursuant to §120.52(9), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Judy A. Rogers — 2-4-88
Clerk — Date

State of Florida
Department of Environmental Regulation
Notice of Intent

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to U.S. Sugar Corporation to increase the steam production from boiler No. 5 at the Bryant Mill located on U.S. Route 98 in northwest Palm Beach County. The increased emissions from this boiler will not have a significant impact on the ambient air quality. A best available control technology determination was not required for this modification. The Department is issuing this Intent to Issue for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative determination (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 Department's Office of General Counsel, 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Failure to file a petition within this time period constitutes a waiver of any right such person has to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

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 proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Rule 28-5.207, Florida Administrative Code, 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, Tallahassee, 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 32399-2400. 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:

Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dept. of Environmental Regulation
South Florida District
2269 Bay Street
Ft. Myers, Florida 33901

Municipal Library
530 South Main Street
Belle Glade, Florida 33430

Palm Beach County Health Department
Division of Environmental Science and Engineering
901 E. Evernia Street
West Palm Beach, Florida 33402

Any person may send written comments on the proposed action to Mr. Bill Thomas at the Department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the Department's final determination.

Technical Evaluation
and
Preliminary Determination

U.S. Sugar Corporation
Bryant, Florida
Palm Beach County

Boiler No. 5 Modification
File No. AC 50-137573

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

February 3, 1988

I. General Information

A. Applicant

U.S. Sugar Corporation
Post Office Drawer 1207
Clewiston, Florida 33440

B. Request

On July 31, 1987, Mr. A. R. Mayo, Vice President of U.S. Sugar Corporation, submitted an application for permit to increase the steam production of the bagasse/oil fired No. 5 boiler at their existing Bryant Mill (SIC 2061). On December 21, 1987, Mr. Mayo replaced the original application with one that requested a smaller increase in steam production from this boiler. The application was considered complete on December 21, 1987.

C. Project and Location

U.S. Sugar Corporation is requesting permission to increase steam production of the No. 5 boiler at the Bryant Mill from 250,000 lbs/hr to 280,804 lbs/hr (24-hour average) and 323,189 lbs/hr (maximum 1-hour rate) of 850 psig-900°F steam. Steam production of the No. 5 boiler would be limited to 990,676,512 lbs/yr. The higher steam production would be achieved by burning more bagasse in the boiler than the current permits allow. There will be no increase in the amount of fuel oil that can be burned in the boiler. No physical change to the existing No. 5 boiler and its air pollution control equipment is needed to achieve the higher steam production rate. The Bryant Mill is located off U.S. Route 98 in northwest Palm Beach County. The UTM coordinates of this site are Zone 17, 537.8 km E and 2969.1 km N.

D. Process Changes

Low-sulfur (0.7%) No. 6 fuel oil consumption by the No. 5 boiler will remain restricted to a maximum of 215.6 MMBtu/hr (approximately 1467 GPH) and 400,000 gallons per season. Assuming the efficiency of the boiler while it is burning bagasse is 55%, the maximum heat input from bagasse will be increased from 522.7 MMBtu/hr (appoximately 73 TPH) to 671.0 MMBtu/hr (approximately 93 TPH) 1-hour maximum and 583.0 MMBtu/hr (approximately 81 TPH) 24-hour average.

The emission rates of all air pollutants, in lbs/MMBtu, will not change. Emissions in lbs/hr and TPY of these pollutants will increase because of the additional bagasse that will be burned in the No. 5 boiler. However, with the restrictions

proposed for the boiler, the increased emissions will not exceed the significant emission rate for any criteria pollutant.

II. Rule Applicability

A. State Regulations

The proposed project, increasing the steam production from an existing carbonaceous fuel fired boiler (No. 6 oil supplementary fuel) located at a sugar mill (SIC 2061), is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2, Florida Administrative Code.

The plant site is in an area designated attainment for all criteria air pollutants (17-2.420) except ozone. The plant site is designated nonattainment for ozone (17-2.410).

The facility is a major source of particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide, and volatile organic compounds because the emissions of each of these criteria pollutants exceeds 100 TPY (17-2.100). The installation is not subject to the Prevention of Significant Deterioration (PSD) regulations (17-2.500) or new source review for nonattainment areas (17-2.510) because the increases in emissions for each pollutant, including PM_{10}, does not exceed the Significant Emissions Rates listed in Table 500-2 (17-2.500(2)(d)2. and 17-2.510(2)(d)4.a.) and the federal regulations.

B. Federal Regulations

The proposed project, a minor modification to a major source, is not subject to review under federal PSD regulations because the modification will not result in a significant net emissions increase of any criteria pollutant. However, EPA must approve the requested changes and modify the federal permit issued for the No. 5 boiler (PSD-FL-0009) prior to the applicant operating at the higher steam production rates.

III. Technical Evaluation

The original permit to construct the No. 5 boiler at the Bryant Mill was issued in August, 1979. A wet impringment scrubber, which was considered BACT at that time, was installed on the boiler to control particulate matter emissions. Particulate matter emissions from the scrubber were limited to 0.15 lbs/MMBtu (assuming 55% efficient boiler) from bagasse and 0.10 lbs/MMBtu from fuel oil. Restraints on the steam production and use of low sulfur (0.7%) fuel oil limited the emissions of the other criteria pollutants.

Based on operational experience with this boiler, the applicant has concluded that it is capable of producing more

steam than it is currently allowed to do under the existing permits. A summary of the boiler parameters, before and after the requested modification, are shown in the following Table I.

Table I

	Steam * Production lbs/hr	Max. Heat Input (total) MMBtu/hour	Max. Heat Input (bagasse) TPH	Max. Heat*** Input (oil) MMBtu/hr	GPH	Max. Sulfur (Oil) %
Present	250,000	522.7	73	215.6	1467	0.7
Proposed	280,804**	583 **	81**	215.6	1467	0.7
Increase	30,804	61.7	8	0	0	0

*24 hour average of 850 psig, 900°F steam.
**Maximum 1 hour average is 323,189 lbs/hr while consuming 671.0 MMBtu/hr of fuel which would be produced by burning 93 TPH bagasse.
***Oil usage limited to 400,000 gallons per season.

A summary of the emissions from the scrubber serving the No. 5 boiler, before and after the modification, is shown in Table 3-1 of the application which is reproduced below.

Table 3-1. Current, Proposed and Net Increase in Emissions, U.S. Sugar Bryant Boiler No. 5

Pollutant	Current Emissions Maximum 1-Hr (lb/hr)	Current Emissions Maximum 24-Hr Avg. (lb/hr)	Current Emissions Maximum Annual (TPY)	Proposed Future Emissions Maximum 1-Hr (lb/hr)	Proposed Future Emissions Maximum 24-Hr Avg. (lb/hr)	Proposed Future Emissions Maximum Annual (TPY)	Net Emissions Increase Maximum 1-Hr (lb/hr)	Net Emissions Increase Maximum 24-Hr Avg. (lb/hr)	Net Emissions Increase Maximum Annual (TPY)	PSD Significant Emission Rate (TPY)
Particulate Matter(TSP)	78.41	78.41	138.31	100.65	87.45	154.26	22.24	9.04	15.95	25
Sulfur Dioxide	257.8	257.8	250.0	389.4	345.4	271.9	131.6	87.6	21.9	40
Nitrogen Oxides	139.2	139.2	160.7	176.6	161.7	183.3	37.4	22.5	22.6	40
Carbon Monoxide	130.7	130.7	230.6	167.8	145.8	257.1	37.1	15.1	26.5	100
Vol. Org. Compounds	101.4	101.4	178.9	130.2	113.1	199.5	28.8	11.7	20.6	40

Note: Worst case emissions for PM, CO and VOC occur when burning 100% bagasse; worst case emissions for SO_2 and NO_x occur when burning the maximum allowable fuel oil with the remainder of heat input due to bagasse.
TPY = Tons Per Year

Reference data (AP-42) implies that the SO_2 and NOx from bagasse combustion may be less than the values proposed by the applicant. The Department also believes the emission factor from AP-42 used to estimate the VOC emissions from burning bagasse is high. The Department will require an emission test for each of these pollutants to determine the correct emission factors in any permit to construct issued for this boiler. Only one test will be required for each of these pollutants and the data will be used to determine actual emissions if future modifications of this boiler are requested. Any permit to construct issued for the boiler will require annual particulate matter and visible emissions tests and other records to confirm compliance with proposed permit conditions.

IV. Air Quality Analysis

The proposed modification will not result in a significant net emission increase of any criteria pollutant (including PM_{10}) as set forth in Rule 17-2.500(2)(e)2., FAC. Therefore, no air quality analysis is required by the regulations. However, the applicant submitted modeling which indicated that the predicted impact of the modified facility for particulate matter would increase the ambient air concentration of TSP to 150 ug/m^3 (24-hour average). The Florida ambient air quality standard for TSP is 150 ug/m^3. In addition, the facility will consume 94 percent of the allowable particulate matter increment (24-hour average). Based on these analyses, the Department has reasonable assurance that the modification will not violate any air quality standard or PSD increment.

V. Conclusion

Based on the data submitted by U.S. Sugar Corporation, the Department has concluded that the Company can operate boiler No. 5 at a higher steam production rate and comply with all applicable state and federal regulations provided the scrubber is maintained and operated at its optimum efficiency and the restrictions on oil consumption and sulfur content of the supplemental fuel oil previously placed on this boiler are complied with. Compliance with the General and Specific Conditions listed in the proposed permit (attached) will assure compliance of the source with the air pollution control regulations.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

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

Permit Number:AC 50-137573
Expiration Date: May 31, 1989
County: Palm Beach
Latitude/Longitude: 26° 50' 41"N
80° 37' 09"W
Project: Boiler No. 5
Modification

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 17-2 and 17-4. 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:

Authorization to increase the heat input and steam production of the No. 5 boiler to 583 MMBtu/hr and 280,804 lbs/hr of 850 psig-900°F steam, 24 hour average, and 671 MMBtu/hr and 323,189 lbs/hr steam, maximum 1 hour average, at U.S. Sugar Corporation's existing sugar mill that is located in northwest Palm Beach County on U.S. Route 98, Bryant, Florida. The UTM coordinates of this site are Zone 17, 537.8 km E and 2969.1 km N.

Construction will be in accordance with the permit application and plans, documents, and reference material submitted unless otherwise stated in the General and Specific Conditions herein.

Attachment:

Application received December 21, 1987.

PERMITTEE:
U.S. Sugar Corporation

Permit Number:AC 50-137573
Expiration Date: May 31, 1989

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.

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.

GENERAL CONDITIONS:

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:

( ) Determination of Best Available Control Technology (BACT)
( ) 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.

GENERAL CONDITIONS:

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, steam pressure, steam temperature, heat input, and bagasse consumption shall not exceed the following:

Steam PSIG	°F	Averaging Time	Steam Prod. lbs/hr	Heat Input* MMBtu/hour	Bagasse Consumption TPH-Wet
850	900	1-hr max.	323,189	671	93
850	900	24-hr avg.	280,804	583	81

Steam production shall not exceed 990,676,512 lbs/yr. The permittee shall maintain records (steam production, pressure, and temperature) to determine compliance with this condition.

SPECIFIC CONDITIONS:

2. Heat input from No. 6 residual oil shall not exceed 215.6 MMBtu/hr (approximately 1,467 GPH) and 400,000 gallons per season. Sulfur content of the fuel oil shall not exceed 0.7%. The boiler shall be equipped with an integrating fuel oil flow meter. The permittee shall maintain a log of the fuel oil consumption and invoices of the fuel oil purchased for this boiler that shows the sulfur content and heating value of the oil (determined by appropriate ASTM methods) to show compliance with this condition.

3. Boiler No. 5 shall not operate commercially during the period of May through October.

4. Particulate matter emissions from boiler No. 5 shall not exceed 0.15 lb/million Btu heat input for bagasse fuel (assuming 55% efficient) or 0.10 lb/million Btu heat input for No. 6 residual oil fuel. In 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. The compliance test results shall be calculated by assuming the thermal efficiency of boiler No. 5 is 55 percent for bagasse, or any new method subsequently adopted by Department rule. For informational purposes only, the particulate matter emission rate shall also be calculated by utilizing both the F factor (for each compliance test) and the short term ASME boiler efficiency test results (once every five years). Scrubber parameters (pressure drop, pressure, and flow) shall be recorded every 15 minutes or continuously during the compliance test.

All compliance tests shall be conducted while the boiler is operating within 10 percent of its permitted capacity with bagasse fuel. If the tests are conducted at less than 90% of the boiler's permitted capacity, the permittee shall notify the South Florida District office and repeat the compliance tests when the steam production increases by 10% above the tested capacity. The South Florida District office shall be notified 15 days prior to any compliance test.

5. Visible emissions from boiler No. 5 shall not exceed 20 percent opacity except that 40 percent opacity is allowed for 2 minutes during any hour. Compliance with the standards shall be determined by DER Method 9 as described in Chapter 17-2, FAC.

The particulate matter emissions and visible emissions shall be determined concurrently. Under circumstances when this is not feasible, the company shall obtain prior approval from the South Florida District to conduct the tests at separate times. In such circumstances, the tests shall be conducted as close to each other as is feasible.

6. Bagasse fuel emission factors used in determining rule applicability for this modification are:

Pollutant	Emission Factor
SO_2	0.25 lbs/MMBtu (24 hr-avg), 0.50 lbs/MMBtu (1 hr-avg)
NOx	1.2 lbs/ton wet bagasse
CO	0.25 lbs/MMBtu
VOC	1.4 lbs/ton wet bagasse

7. 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 approved by the Department.

8. The scrubber controlling the emissions from Boiler No. 5 shall be equipped with instruments or the company shall be capable of measuring the gas pressure drop, water pressure, volume flow, and pH of the scrubber water. During one season of operation at the higher steam production rates, readings at 3 hour intervals of the gas pressure drop shall be taken and logged for each day that Boiler No. 5 operates. If any three hour average gas pressure drop falls more than twenty-five percent below the average pressure drop recorded during the compliance test, the Department may require a compliance test at the lower pressure drop and may also require the installation of an instrument to continuously measure and record the gas pressure drop.

Readings at 3 hour intervals of the pH of the scrubber water shall be taken and logged for each day during which bagasse is burned in boiler No. 5 during its first season of operation following issuance of this construction permit. The Department will be notified if chemicals are used to adjust pH. If any 3 hour average pH value falls more than ten percent below the pH that existed during the compliance test for sulfur dioxide, the Department may require the installation of an instrument to continuously measure and record scrubber water pH.

SPECIFIC CONDITIONS:

During compliance testing, the scrubber parameters shall be measured and recorded at 15 minute intervals.

Records of the measurements required by this condition shall be obtained each day Boiler No. 5 operates during the first season and copies of the records transmitted to the South Florida District and Bureau of Air Quality Management at the end of the season(s).

After review of the season's data, the Bureau of Air Quality Management and the South Florida District will establish the scrubber parameters to be monitored and the frequency of monitoring. These requirements shall become a condition to any permit to operate issued to boiler No. 5. The records required by the permit to operate shall be kept for five years for agency inspection.

Prior to the expiration date of this construction permit, the permittee shall confirm the emission factors used in the application by conducting tests by the procedures described in 40 CFR 60, Appendix A, for each of the pollutant listed in Specific Condition No. 6. This permit does not require routine compliance tests for these pollutants.

9. If visible emissions from the bagasse handling system exceed 20 percent opacity, the permittee shall take reasonable precautions, as approved by the Department, to minimize unconfined emissions. These precautions shall include covered conveyors, minimizing the distance the bagasse is dropped during handling, and windbreaks around the material handling equipment.

10. A test shall be made on Boiler No. 5 to determine its actual thermal efficiency in accordance with the ASME short-form procedure each time the operating permit for the boiler is renewed. The latest report on the thermal efficiency test shall be included with the application for the permit to operate this boiler.

11. The boiler will not be operated at the higher steam production rate until EPA modifies the federal permit for this source (PSD-FL-0009).

12. The permittee will demonstrate compliance with the conditions of the construction permit and submit a complete application for a permit to operate to the South Florida District

SPECIFIC CONDITIONS:

office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of this construction permit until its expiration date.

13. Any permit to operate issued for Boiler No. 5 will limit operation to 990,676,512 lbs/yr steam production between October 15 and May 1; require the scrubber to be operated at a six hour average pressure drop not less than 90 percent of the six hour average pressure drop that existed during the particulate matter tests that showed compliance or not less than 75% of the average six hour pressure drop at any time; require, as a minimum, annual particulate matter and visible emissions tests; an annual operation report which will include the amount of oil burned 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. 8.

Issued this ____ day of _____, 19___

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION

_____
Dale Twachtmann, Secretary

file

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

December 23, 1987

Mr. Wayne Aronson, Chief
Program Support Section
U.S. EPA, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Mr. Aronson:

RE: Proposed Modification Requests
United States Sugar Corporation
State Construction Permit: AC 50-137573

Enclosed for your review and comment is a response to a request for additional information for the above referenced existing source and facility. Assessment as to whether or not the modifications requested are subject to PSD or nonattainment new source review, or both, is currently under review. If you have any comments or questions, please contact Willard Hanks or Tom Rogers at the above address or at (904)488-1344. Any comments that you have should be submitted to the Bureau by January 19, 1988.

Sincerely,

M.V. Janes

Margaret V. Janes
Planner
Bureau of Air Quality
Management

/mj

Attachment

Golder Associates Inc.

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

August 6, 1999

9937536

Florida Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida

RECEIVED
AUG 09 1999
BUREAU OF AIR REGULATION

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

RE: United States Sugar Corporation (U.S. Sugar)
Bryant Sugar Mill
Boiler No. 5

0990061-002-AC
PSD-FL-009(a)

Dear Mr. Linero:

The U.S. Sugar Bryant Mill Boiler No. 5 currently operates under operating permit AO50-234931, issued March 28, 1994 (attached for your reference). This permit was modified on March 27, 1998, by the Department's South District Office to allow this boiler to operate during the period from October 16 through June14 of each year (copy also attached). Previous to this amendment, the boiler operation was restricted to the period from October 16 through April 30. The boiler also has a restriction in the operating permit on the total hours of operation (4,752 hours) in any 12 consecutive months, as well as total steam production per year (990,676,512 lb/yr of 850 psig, 900°F steam, or 1,049,514873 lb/yr of 400 psig, 750°F steam).

Bryant Boiler No. 5 was also issued a construction permit on May 5, 1988, to increase the steam production rate (Permit No. AC50-137573; attached for reference). This permit established federally enforceable permit conditions, including the conditions referenced above in the current operating permit related to steam production and the operating period for the boiler. Note that the operating hours limitation of 4,752 hours per 12 consecutive months was not contained in the construction permit.

Due to the length of the crop season potentially increasing this upcoming season, U.S. Sugar is planning on a crop season start date this year of October 1. Therefore, U.S. Sugar is requesting that the 1988 construction permit be amended to allow operation from October 1 through June 14 of each year. However, to avoid potential conflicts in the future, it is desired to change the permit wording to "commercial operation only during the sugar processing season". This wording is consistent with recently revised permit wording for Clewiston Boiler No. 4 (see FDEP amendment letter dated April 8, 1999, attached).

In discussing this request with Jeff Koerner last week, Mr. Koerner requested that supportive information be provided to show that maximum air quality impacts for Boiler No. 5 would not increase due to the operation of the boiler outside of the originally permitted operating "window". As a result, we have modeled the Boiler No. 5 to demonstrate that maximum impacts due to Boiler No. 5 operation occur during the period from October 16 to April 30, and therefore, extending the operating window from October 1 to October 15 and from May 1 to June 14 does not cause higher air quality impacts.

Boiler No. 5 at Bryant was modeled alone using the ISCST3 model. A generic emission rate of 10 grams/sec was used. Appropriate receptor locations and spacing were input to identify the highest and second-highest 3-hour, 24-hour and annual average generic impacts. Property boundaries were also considered (see attached figure for depiction). Building dimensions were input to the model to address building downwash effects. Building dimensions are presented in the attached table, and the buildings are shown in the attached plot plan. Five years of West Palm Beach meteorological data were used.

The ISCST3 model was executed for the period October 1 through June 15. The results of the modeling analysis show that the predicted highest and highest, second highest impacts occur during the months of January or February (see attached computer model printout). Thus, extending the season from October 1 to October 15 and from May 1 to June 14 will not cause higher air quality impacts from Bryant Boiler No. 5 operation. This time modeled period would cover the maximum sugar cane processing season, as currently envisioned.

Based on this analysis, it is requested that Specific Condition 3 of Permit No. AC50-137573 be amended to read as follows:

> "Boiler No. 5 shall operate commercially only during the sugar cane processing season."

Through separate request to the South District Office, we are requesting that the operating permit be amended as well to reflect this language. If you have any questions concerning this request or require additional information, please call.

Sincerely,

GOLDER ASSOCIATES INC.

David A. Buff

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

DB/jkk

Enclosures
cc: Don Griffin
Bill Wehrum
Philip Barbaccia
J:\DP\PROJECTS\99\9937\9937536a\01\#01-ltr.doc

cc: J. Koerner
SF
palm bch Co.
EPA
NPS

Table 1. Structure Dimensions Used in the U.S. Sugar Bryant Boiler No. 5 Modeling Analysis

Structure	Actual Building Dimensions					
	Height		Length		Width	
	ft	m	ft	m	ft	m
Sugar Warehouse No. 1	79	23.9	280	85.3	155	47.2
Sugar Warehouse No. 2	55	16.8	700	213.4	145	44.2
Sugar Warehouse No. 3	55	16.8	500	152.4	145	44.2
Sugar Warehouse No. 4	55	16.8	700	213.4	145	44.2
Bagasse Building Storage	52	15.8	76	23.2	30	9.1
Boiler No. 5	62	18.9	26	7.9	14	4.3
Power House	51	15.5	74	22.6	43	13.1
Chemical Storage	31	9.4	74	22.6	45	13.7
Turbo Generator 22,000 KW	60	18.3	40	12.2	70	21.3
Employee Facility	15	4.6	100	30.5	50	15.2
Warehouse	16	4.9	75	22.9	155	47.2
Cooling Tower	56	17.1	35	10.7	105	32.0
Mill Building	57	17.4	200	61.0	70	21.3
Boiling House	102	31.1	200	61.0	125	38.1
Boiler Building	61	18.6	202	61.6	70	21.3
Machine Shop	51	15.5	75	22.9	148	45.1
Molasses Tank No. 1	28	8.5	112	34.1	N/A	N/A
Molasses Tank No. 2	28	8.5	112	34.1	N/A	N/A
Molasses Tank No. 3	28	8.5	112	34.1	N/A	N/A

SUPPORTIVE MODELING INFORMATION

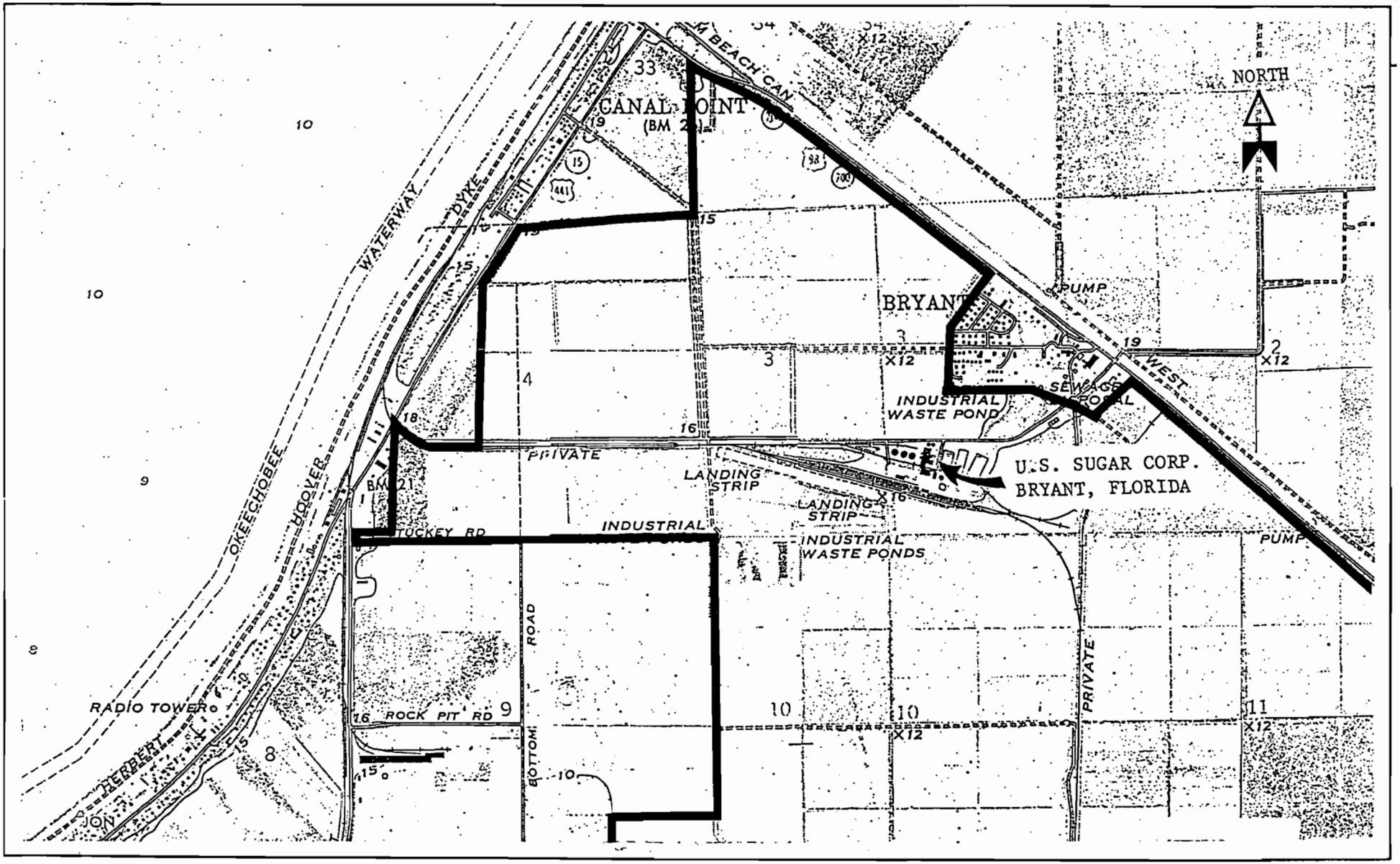
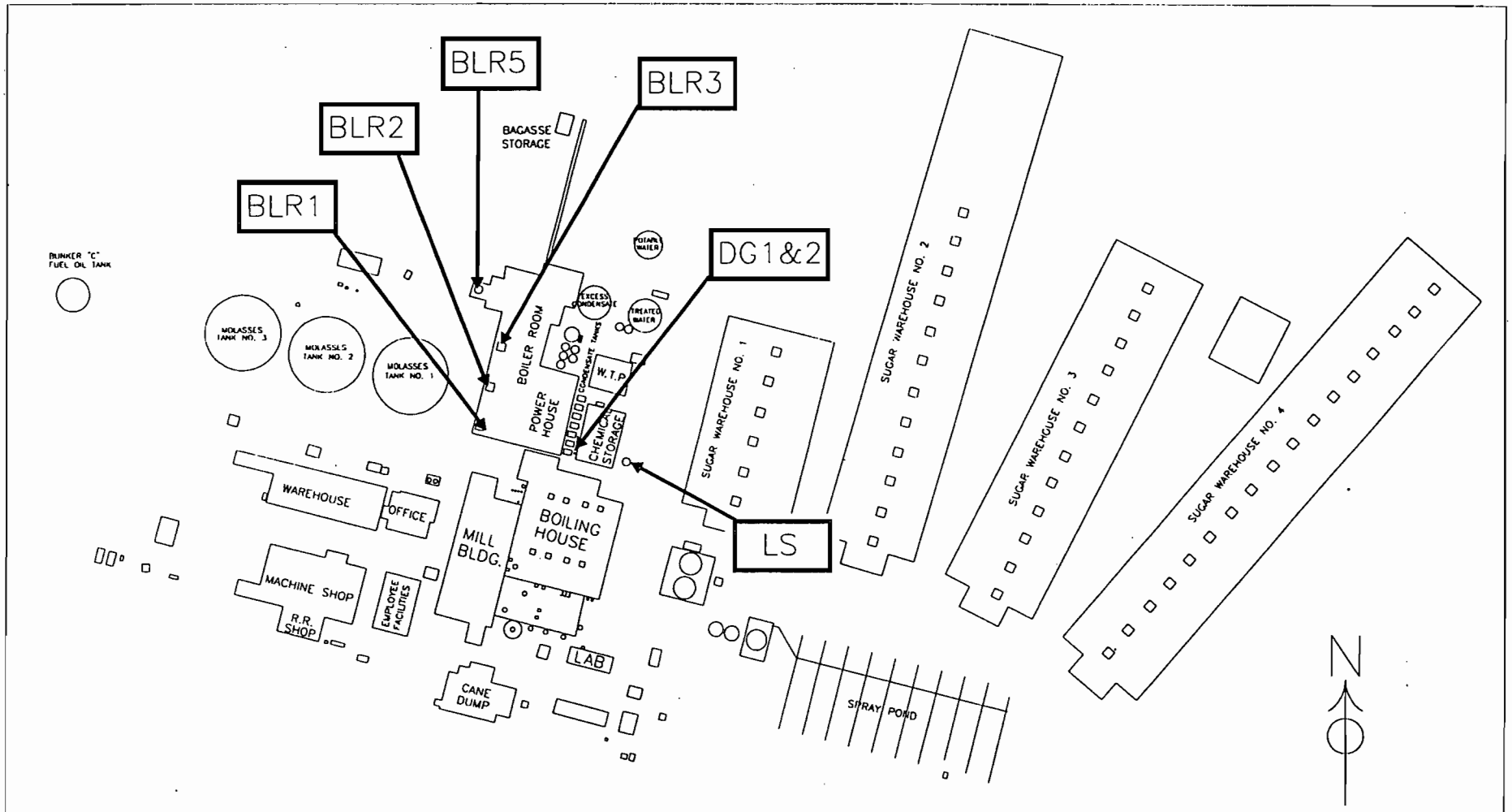


Figure 1-2. Location Map of Bryant Mill, U.S. Sugar Corporation

KBN



Note: Drawing not to scale

Attachment UB-FE-2: Facility Plot Plan

United States Sugar Corporation Pahokee, Florida	Emission Unit Identification	Filename: UBFE2.DWG Lotest Revision: 3/13/96

KBN
A GOLDER ASSOCIATES COMPANY

ISCBOB3 RELEASE 98056

ISCST3 OUTPUT FILE NUMBER 1 :BLR5.087
ISCST3 OUTPUT FILE NUMBER 2 :BLR5.088
ISCST3 OUTPUT FILE NUMBER 3 :BLR5.089
ISCST3 OUTPUT FILE NUMBER 4 :BLR5.090
ISCST3 OUTPUT FILE NUMBER 5 :BLR5.091
First title for last output file is: 1987 US SUGAR BRYANT BLR 5, 10 g/s emission rate 8-5-99
Second title for last output file is: ANALYSIS FOR EXTENDED BOILER OPERATION

AVERAGING TIME	YEAR	CONC (ug/m3)	DIR (deg) or X (m)	DIST (m) or Y (m)	PERIOD ENDING (YYMMDDHH)	
SOURCE GROUP ID: ALL						
Annual						
	1987	0.8	310.	1768.	87123124	
	1988	0.8	280.	2157.	88123124	
	1989	1.1	320.	1693.	89123124	
	1990	1.3	310.	1768.	90123124	
	1991	1.2	300.	2151.	91123124	
HIGH 24-Hour						
	1987	13.9	350.	1301.	87033024	
	1988	17.3	360.	1118.	88012124	1/21/88
	1989	11.8	330.	2049.	89060924	
	1990	11.2	340.	1614.	90012524	
	1991	15.6	340.	1614.	91030224	
HSH 24-Hour						
	1987	13.7	350.	1301.	87011624	1/16/87
	1988	13.3	340.	1614.	88021924	
	1989	11.0	350.	1301.	89123124	
	1990	10.7	340.	1614.	90031724	
	1991	13.3	340.	1614.	91120324	
HIGH 3-Hour						
	1987	43.1	360.	1118.	87011612	
	1988	38.2	340.	1614.	88040418	
	1989	46.9	360.	1118.	89022203	2/22/89
	1990	39.4	360.	1118.	90110924	
	1991	38.3	340.	1614.	91112318	
HSH 3-Hour						
	1987	37.8	360.	1118.	87012209	
	1988	34.9	340.	1614.	88021915	
	1989	39.6	360.	1118.	89022121	2/21/89
	1990	36.7	350.	1301.	90022309	
	1991	33.8	360.	1118.	91021321	

All receptor computations reported with respect to a user-specified origin

GRID	0.00	0.00
DISCRETE	0.00	0.00

```
CO STARTING
CO TITLEONE 1987 US SUGAR BRYANT BLR 5, 10 g/s emission rate          8-5-99
CO TITLETWO ANALYSIS FOR EXTENDED BOILER OPERATION
CO MODELOPT DFAULT CONC   RURAL
CO AVERTIME PERIOD 24 3
CO POLLUTID GEN
CO DCAYCOEF    .000000
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS        YS       ZS
**                              (m)       (m)      (m)

SO LOCATION BLR5          POINT        0.0     0.0     0.


** Source Parameter Cards:
** POINT:   SRCID       QS       HS         TS    VS         DS
**                    (g/s)      (m)       (K)   (m/s)       (m)
**   US Sugar Bryant
SO SRCPARAM BLR5          10.00    42.7    345.0   11.49     2.90

SO BUILDHGT Blr5       18.59   18.59   18.59   18.59   18.59   18.59
SO BUILDHGT Blr5       18.59   18.59   18.59   18.59   18.59   18.59
SO BUILDHGT Blr5       18.59   18.59   18.59   18.59   18.59   18.59
SO BUILDHGT Blr5       18.59   18.59   18.59   18.59   18.59   18.59
SO BUILDHGT Blr5       18.59   18.59   18.59   23.93   23.93   23.93
SO BUILDHGT Blr5       23.93   23.93   31.09   31.09   31.09   31.09
SO BUILDWID Blr5       26.62   26.62   36.54   45.36   52.79   58.62
SO BUILDWID Blr5       62.67   64.82   64.99   63.19   63.19   64.99
SO BUILDWID Blr5       64.82   62.67   58.62   52.79   45.36   36.54
SO BUILDWID Blr5       26.62   26.62   36.54   45.36   52.79   58.62
SO BUILDWID Blr5       62.67   64.82   64.99   89.14   89.14   94.66
SO BUILDWID Blr5       97.31   97.01   70.05   66.17   60.29   52.58
SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE GRIDPOLR POL STA
RE GRIDPOLR POL ORIG   0.0   0.0
RE GRIDPOLR POL DIST  2500 5000 7000 10000
RE GRIDPOLR POL GDIR   36  10.00  10.00
RE GRIDPOLR POL END
RE DISCPOLR BLR5     1007.        10
RE DISCPOLR BLR5     1100.        10
RE DISCPOLR BLR5     1400.        10
RE DISCPOLR BLR5     1800.        10
RE DISCPOLR BLR5      289.        20
RE DISCPOLR BLR5     1100.        20
RE DISCPOLR BLR5     1400.        20
RE DISCPOLR BLR5     1800.        20
RE DISCPOLR BLR5      943.        20
RE DISCPOLR BLR5     1100.        20
RE DISCPOLR BLR5     1400.        20
RE DISCPOLR BLR5     1800.        20
RE DISCPOLR BLR5      854.        20
```

RE	DISCPOLR	BLR5	1100. 20
RE	DISCPOLR	BLR5	1400. 20
RE	DISCPOLR	BLR5	1800. 20
RE	DISCPOLR	BLR5	318. 30
RE	DISCPOLR	BLR5	500. 30
RE	DISCPOLR	BLR5	800. 30
RE	DISCPOLR	BLR5	1100. 30
RE	DISCPOLR	BLR5	1400. 30
RE	DISCPOLR	BLR5	1800. 30
RE	DISCPOLR	BLR5	364. 40
RE	DISCPOLR	BLR5	500. 40
RE	DISCPOLR	BLR5	800. 40
RE	DISCPOLR	BLR5	1100. 40
RE	DISCPOLR	BLR5	1400. 40
RE	DISCPOLR	BLR5	1800. 40
RE	DISCPOLR	BLR5	443. 50
RE	DISCPOLR	BLR5	500. 50
RE	DISCPOLR	BLR5	800. 50
RE	DISCPOLR	BLR5	1100. 50
RE	DISCPOLR	BLR5	1400. 50
RE	DISCPOLR	BLR5	1800. 50
RE	DISCPOLR	BLR5	587. 60
RE	DISCPOLR	BLR5	800. 60
RE	DISCPOLR	BLR5	1100. 60
RE	DISCPOLR	BLR5	1400. 60
RE	DISCPOLR	BLR5	1800. 60
RE	DISCPOLR	BLR5	688. 70
RE	DISCPOLR	BLR5	800. 70
RE	DISCPOLR	BLR5	1100. 70
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RE	DISCPOLR	BLR5	1800. 70
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RE	DISCPOLR	BLR5	1400. 80
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RE	DISCPOLR	BLR5	1800. 80
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RE	DISCPOLR	BLR5	1400. 80
RE	DISCPOLR	BLR5	1800. 80
RE	DISCPOLR	BLR5	1370. 90
RE	DISCPOLR	BLR5	1400. 90
RE	DISCPOLR	BLR5	1800. 90
RE	DISCPOLR	BLR5	1754. 100
RE	DISCPOLR	BLR5	1800. 100
RE	DISCPOLR	BLR5	2292. 110
RE	DISCPOLR	BLR5	2483. 120
RE	DISCPOLR	BLR5	2801. 130
RE	DISCPOLR	BLR5	2377. 140
RE	DISCPOLR	BLR5	2112. 150
RE	DISCPOLR	BLR5	1954. 160
RE	DISCPOLR	BLR5	1870. 170
RE	DISCPOLR	BLR5	1848. 180
RE	DISCPOLR	BLR5	1882. 190
RE	DISCPOLR	BLR5	1979. 200
RE	DISCPOLR	BLR5	2155. 210
RE	DISCPOLR	BLR5	2024. 210
RE	DISCPOLR	BLR5	1947. 210
RE	DISCPOLR	BLR5	2297. 220
RE	DISCPOLR	BLR5	2291. 220

```
RE DISCPOLR BLR5     1524.       220
RE DISCPOLR BLR5     1284.       230
RE DISCPOLR BLR5     1400.       230
RE DISCPOLR BLR5     1800.       230
RE DISCPOLR BLR5     1140.       240
RE DISCPOLR BLR5     1400.       240
RE DISCPOLR BLR5     1800.       240
RE DISCPOLR BLR5     1317.       250
RE DISCPOLR BLR5     1400.       250
RE DISCPOLR BLR5     1800.       250
RE DISCPOLR BLR5     2758.       260
RE DISCPOLR BLR5     2443.       270
RE DISCPOLR BLR5     2157.       280
RE DISCPOLR BLR5     2262.       290
RE DISCPOLR BLR5     2151.       300
RE DISCPOLR BLR5     1768.       310
RE DISCPOLR BLR5     1800.       310
RE DISCPOLR BLR5     1693.       320
RE DISCPOLR BLR5     1800.       320
RE DISCPOLR BLR5     2049.       330
RE DISCPOLR BLR5     1614.       340
RE DISCPOLR BLR5     1800.       340
RE DISCPOLR BLR5     1301.       350
RE DISCPOLR BLR5     1400.       350
RE DISCPOLR BLR5     1800.       350
RE DISCPOLR BLR5     1118.       360
RE DISCPOLR BLR5     1400.       360
RE DISCPOLR BLR5     1800.       360
RE FINISHED

ME STARTING
ME INPUTFIL S:\MET\WPBPRL87.BIN       UNFORM
ME ANEMHGHT    33  FEET
ME SURFDATA  12844  1987            WEST-PALM-BCH
ME UAIRDATA  12844  1987            WEST-PALM-BCH
ME DAYRANGE  1/1-6/15 10/1-12/31
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST  SECOND
OU FINISHED
```

PREVIOUS PERMITS

Florida Department of
Environmental Protection

South District
2295 Victoria Avenue
Fort Myers, Florida 33901

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

PERMITTEE:

United States Sugar Corporation
P.O. Drawer 1207
Clewiston, FL 33440

I.D. No. 52FTM50006105
Permit/Certification
Number: AO50-234931
Date of Issue: March 28, 1994
Expiration Date: March 28, 1999
County: Palm Beach
Latitude: 26° 50' 08" N
Longitude: 80° 36' 36" W
Section/Town/Range: 03/42S/37E
Project: Carbonaceous Fuel
Fired Boiler, No. 5
Bryant Mill

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-296, 17-297 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For operation of boiler No. 5 at U.S. Sugar Corporation's Bryant mill. This boiler is a bagasse/oil fired boiler that was originally permitted in 1978 and began operating in the 1979-1980 crop season. U.S. Sugar Corporation (U.S. Sugar) is authorized to burn bagasse, new/virgin No. 6 fuel oil, or on-specification used oil. The maximum heat input rate of bagasse is 671 million Btu per hour (93 tons per hour on a wet basis). The maximum heat input rate of new/virgin No. 6 fuel oil is 215.6 million Btu per hour (1,467.0 gallons per hour).

Particulate matter emissions are controlled with two Model 100 Joy type turbulaire water impingement scrubbers with water spray nozzles operating in an internal atmosphere of negative draft gas flow.

The facility is located off of U.S. Route 98, Bryant, Palm Beach County, Florida.

PERMITTEE:

United States Sugar Corporation
(U.S. Sugar)

I.D. No. 52FTM50006105
Permit/Cert. No. AO50-234931
Date of Issue: March 28, 1994
Expiration Date: March 28, 1999

SPECIFIC CONDITIONS:

1. Particulate matter (PM)/PM10 emissions shall not exceed any of the following limits [Rule 17-212.400(6)(b), F.A.C.]:

(A) 87.5 pounds per hour (24 hour average - compliance with the 24 hour average will be determined based upon the normal testing time period for EPA Method 5, 40 CFR 60, Appendix A).

(B) 0.15 pound per million Btu of heat input of carbonaceous fuel (bagasse) plus 0.10 pound per million Btu heat input of fossil fuel, assuming 55% thermal efficiency for the carbonaceous fuel part of the calculation.

(C) 154.26 tons in any 12 consecutive month period.

2. Nitrogen oxides (NOx) emissions shall not exceed 161.7 pounds per hour (24 hour average). [Rule 17-272.300(3)(e), F.A.C.].

3. Visible emissions shall not exceed 20 percent opacity except that 40 percent opacity is permissible for not more than two minutes in any one hour. [Permit AC50-137573].

4. U.S. Sugar shall not discharge air pollutants which cause or contribute to an objectionable odor.[Rule 17-296.320(2), F.A.C.].

5. The hours of operation shall not exceed 4,752 hours in any 12 consecutive month period. U.S. Sugar shall not operate this boiler during the period of May 1 through October 15. [Requested by Permittee].

6. Steam production, heat input, and bagasse consumption shall not exceed the quantities listed below:

Steam PSIG	°F	Averaging Time	Steam Prod. lbs/hour	Heat Input* MMBtu/hour	Bagasse Consumption (TPH-Wet)
850	900	1-hr. max.	323,189	671	93
850	900	24-hr. avg.	280,804	583	81
400	750	1-hr. max.	342,384	671	93
400	750	24-hr. avg.	297,482	583	81

* based upon 55% thermal efficiency while burning bagasse.

SPECIFIC CONDITIONS:

6. (continued)

Steam production shall not exceed 990,676,512 pounds per year of 850 psig, 900 °F steam, nor 1,049,514,873 pounds per year of 400 psig, 750 °F steam. If steam in both pressure/temperature classes is produced during a year, then the allowable steam production in pounds per year is the weighted average of the limits for each class of steam production. U.S. Sugar shall maintain records (steam production, pressure, and temperature) to determine compliance with this condition. [PSD-FL-009].

7. U.S. Sugar is permitted to burn only the following fuels. The heat input rate of each fuel shall not exceed the following limits [Requested by the Permittee]:

(A) Bagasse. The maximum heat input rate of bagasse shall not exceed 671 million Btu per hour (93 tons per hour on a wet basis).

(B) New/virgin No. 6 fuel oil with a maximum sulfur content of 0.7 percent by weight.* The maximum heat input rate of new/virgin No. 6 fuel oil shall not exceed 215.6 million Btu per hour (1,467.0 gallons per hour).

* U.S. Sugar may burn blended new/virgin No. 6 fuel oil from a common fuel oil system. U.S. Sugar shall replace all fuel oil burned in this boiler with new/virgin No. 6 fuel oil having a maximum sulfur content of 0.7 percent by weight. Such replacement shall occur during the season that the fuel oil is burned.

(C) On specification used oil with a maximum sulfur content of 0.7 percent by weight.

8. Burning of fuel oil shall not exceed 400,000. gallons per crop season. [Permit AO50-162367].

9. U.S. Sugar shall install, operate, and maintain an integrating fuel oil flow meter. [Permit AO50-162367].

10. U.S. Sugar shall maintain a log of the fuel oil consumption and invoices of the fuel oil purchased for this boiler that shows the sulfur content and heating value of the oil (determined by appropriate ASTM methods). U.S. Sugar shall keep hourly records documenting the quantities of steam produced and daily records documenting the quantity of fuel oil consumed. All records shall be available for regulatory agency inspection for at least five years. [Rule 17-4.070(3), F.A.C.].

SPECIFIC CONDITIONS:

11. Used Oil Combustion:

(A) U.S. Sugar shall not burn off-specification used oil. Used oil which fails to comply with any of the following specification levels is off-specification used oil [Requested by applicant; 40 CFR 279 Subpart B and Rule 17-4.070(3), F.A.C.]:

1. Arsenic shall not exceed 5.0 ppm.
2. Cadmium shall not exceed 2.0 ppm.
3. Chromium shall not exceed 10.0 ppm.
4. Lead shall not exceed 100.0 ppm.
5. Total halogens shall not exceed 4,000.0 ppm. * See note.
6. Flash point shall not be less than 100.0 ^{o}F.

*Note: Used oil containing more than 1,000.0 ppm total halogens is presumed to be a hazardous waste under the rebuttable presumption provided under 40 CFR 279.10(b)(1)(ii). Such oil shall not be burned unless U.S. Sugar demonstrates through the use of DEP approved analytical methods that the used oil does not constitute hazardous waste.

(B) At least one representative sample of used oil per crop season shall be analyzed for: heating value as generated (Btu/lb), sulfur, arsenic, cadmium, chromium, lead, total halogens, and flash point using EPA/DEP or ASTM approved methods.

(C) Results of used oil sampling and analysis shall be retained for at least three (3) years and shall be available for inspection by the Department or the Palm Beach County Public Health Unit.

(D) On an annual basis, with the Annual Operation Report, U.S. Sugar shall submit reports of the monthly quantities of used oil burned and the results from sample analyses performed to the Department's South District Office and to the Palm Beach County Public Health Unit.

SPECIFIC CONDITIONS:

12. U.S. Sugar shall test this boiler for the following pollutants on an annual basis within 60 days of the date January 1. Each compliance test shall be conducted in accordance with 40 CFR 60, Appendix A, using the method indicated [Rule 17-297.340(1)(d), F.A.C.]:

(A) PM/PM10 - EPA Method 5. The compliance test results shall be calculated by assuming that the thermal efficiency of boiler No. 5 is equal to 55% while burning bagasse, or by any new method subsequently adopted by Department rule.

(B) Visible emissions - EPA Method 9; while conducting the EPA Method 5 test. Under circumstances when simultaneous Method 9 and Method 5 tests are not feasible, U.S. Sugar shall provide written notification of the reasons why simultaneous testing was not feasible to the Department and the Palm Beach County Public Health Unit within two business days of the scheduled testing date. In such circumstances, the tests shall be conducted as close to each other as is feasible.

13. U.S. Sugar shall test this boiler to determine its actual thermal efficiency in accordance with the ASME short-form procedure during the 1993/1994 crop season, and during the crop season just prior to applying for permit renewal. [Permit AO50-162367].

14. U.S. Sugar should conduct emissions testing while operating this boiler within 90% - 100% of the maximum heat input rate of 671 million Btu per hour. Testing may be conducted while operating at less than 90% of the maximum heat input rate; however, if so, subsequent operation is limited up to 110% of the average heat input rate during the test. Operation at higher heat input rates is allowed for no more than 25 calendar days for the purpose of conducting additional compliance tests to regain the higher heat input rate, not to exceed 671 million Btu per hour. The actual heat input rate shall be specified in each test report. [Rule 17-4.070(3), F.A.C.].

SPECIFIC CONDITIONS:

15. The following scrubber operating parameters, for each scrubber, shall be recorded at least every 15 minutes during each compliance test. This data must be included in each test report [Rule 17-4.070(3), F.A.C.]:

(A) Gas pressure drop.

(B) Scrubber water supply pressure.

(C) Scrubber water supply flow rate.

16. U.S. Sugar shall file all test reports with the South District Office of the Department and the Palm Beach County Public Health Unit as soon as practical, but no later than 45 days after the test is complete. [Rule 17-297.570(2), F.A.C.].

17. U.S. Sugar shall notify the South District Office of the Department and the Palm Beach County Public Health Unit at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted. [Rule 17-297.340(1)(i), F.A.C.].

18. Each scrubber shall be equipped with a manometer or equivalent instrument to measure the gas pressure drop, with pressure gauges to measure the scrubber water supply pressure, and with a flow meter or equivalent device (weir) to measure the scrubber water supply flow rate. Data from these instruments shall be recorded at least once per shift (every 8 hours). The recorded data shall be used to determine 8 hour averages. The pH of the scrubber water shall be measured and recorded at least once per day. These records shall be available for regulatory agency inspection for at least five years. U.S. Sugar shall notify the Department and the Palm Beach County Public Health Unit if chemicals are used to adjust pH.
[Permit AO50-162367 and Rule 17-4.070(3), F.A.C.].

19. While boiler number 5 is operating, the 8 hour average gas pressure drop shall not fall below 90 percent of the average value reported during the most recent satisfactory compliance test. The gas pressure drop shall not fall below 75 percent of the average value reported during the most recent satisfactory compliance test at any time except during startup or shutdown. [Rule 17-4.070(3), F.A.C.].

SPECIFIC CONDITIONS:

20. While boiler number 5 is operating, the 8 hour average scrubber water supply pressure shall not fall below 90 percent of the average value reported during the most recent satisfactory compliance test. The scrubber water supply pressure shall not fall below 75 percent of the average value reported during the most recent satisfactory compliance test at any time except during startup or shutdown. [Rule 17-4.070(3), F.A.C.].

21. While boiler number 5 is operating, the 8 hour average scrubber water supply flow rate shall not fall below 90 percent of the average value reported during the most recent satisfactory compliance test. The scrubber water supply flow rate shall not fall below 75 percent of the average value reported during the most recent satisfactory compliance test at any time except during startup or shutdown. [Rule 17-4.070(3), F.A.C.].

22. U.S. Sugar shall take reasonable precautions to prevent emissions of unconfined particulate matter. [Rule 17-296.310(3), F.A.C.].

23. If visible emissions from the bagasse handling system exceed 20% opacity, then U.S. Sugar shall take additional reasonable precautions, as approved by the Department, to minimize unconfined emissions. These precautions shall include covered conveyors, minimizing the distance that the bagasse is dropped during handling, and windbreaks around the material handling equipment. [Permit AO50-162367 and Rule 17-296.310(3), F.A.C.].

24. Emissions of carbon monoxide and volatile organic compounds shall be maintained at the lowest possible level by following the operating procedures described in the operation and maintenance plan dated June 29, 1993. [Permit AO50-162367].

25. U.S. Sugar shall submit an annual operation report (DEP Form 17-210.900(4)) to the South District Office of the Department and the Palm Beach County Public Health Unit by March 1st each year. The form should be reproduced and used for the annual submittals. The report shall also include the amount of fuel oil burned, the amount of used oil burned, and the sulfur content of the oil purchased for the season. [Rule 17-4.070(3), F.A.C.].

26. If the Department has reason to believe that any applicable emission standard is being violated, then the Department may require U.S. Sugar to conduct compliance tests which identify the nature and quantity of pollutant emissions and to provide a report on the results of said tests.[Rule 17-297.340(2), F.A.C.].

PERMITTEE:

United States Sugar Corporation
(U.S. Sugar)

I.D. No. 52FTM50006105
Permit/Cert. No. AO50-234931
Date of Issue: March 28, 1994
Expiration Date: March 28, 1999

SPECIFIC CONDITIONS:

27. U.S. Sugar shall send all notifications and reports required by this permit to (a) the South District Office of the Department in Fort Myers, and (b) the Palm Beach County Public Health Unit in West Palm Beach, FL.

28. U.S. Sugar shall provide stack sampling facilities that comply with Rule 17-297.345, F.A.C.

29. There shall be no discharges of liquid effluents or contaminated runoff from the plant site. [Rule 17-4.070(3), F.A.C.].

30. Issuance of this permit does not relieve U.S. Sugar from complying with applicable emission limiting standards or other requirements of Rules 17-210, 17-212, 17-252, 17-272, 17-273, 17-275, 17-296, and 17-297, F.A.C., or any other requirements under federal, state, or local law. [Rule 17-210.300, F.A.C.].

31. In order to renew this operation permit, U.S. Sugar must submit an application for renewal at least 60 days prior to the expiration date of the permit. [Rule 17-4.090(1), F.A.C.].

Note: In the event of an emergency, the permittee shall contact the Department by calling (904) 488-1320. During normal business hours, the permittee shall call (813) 332-6975.

Issued this 28th day of March, 1994.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Ronald D. Blackburn
Acting Director of
District Management

RDB/GM/gm

14 Pages Attached

Department of Environmental Protection

Lawton Chiles
Governor

South District
2295 Victoria Avenue, Suite 364
Fort Myers, Florida 33901-3881
Mailing Address:
Post Office Box 2549
Fort Myers, Florida 33902-2549

NOTICE OF PERMIT MODIFICATION

March 27, 1998

CERTIFIED MAIL #P 148 414 138
RETURN RECEIPT REQUESTED

In the Matter of an Application
for permit by:

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

Facility I.D. No: 0990061
DEP Permit Number: AO50-234931
Palm Beach County - AP
Bryant Boiler No. 5

The applicant, United States Sugar Corporation on March 24, 1998 applied to the Department of Environmental Protection for a permit modification to permit AO50-234931 for changing the boiler operation dates from October 15 through May 1 to October 15 through June 15. The following changes (additions) to the permit are hereby entered and are now a part of the permit:

SPECIFIC CONDITION:

FROM:

5. The hours of operation shall not exceed 4752 hours in any 12 consecutive month period. U.S. Sugar shall not operate this boiler during the period of May 1 Through October 15. [Requested by Permittee].

TO:

5. The hours of operation shall not exceed 4752 hours in any 12 consecutive month period. U.S. Sugar shall not operate this boiler during the period of June 15 Through October 15. [Requested by Permittee].

All other conditions of the permit remain unchanged.

A person whose substantial interests are affected by this permit may petition for an administrative proceeding (hearing) in accordance with Section l20.57, Florida Statutes (F.S.). The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-2400, within 14 days of receipt of this Permit. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section l20.57, F.S.

The Petition shall contain the following information;

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;

(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

(d) A statement of the material facts disputed by Petitioner, if any;

(e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

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 permit. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section l20.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, Florida Administrative Code (F.A.C.).

This permit is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rule 62-103.070, F.A.C.. Upon timely filing of a petition or a request for an extension of time this permit will not be effective until further Order of the Department.

When the Order (Permit) is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department.

Executed in Fort Myers, Florida.

STATE OF FLORIDA DEPARTMENT
ENVIRONMENTAL PROTECTION

David M. Knowles

David M. Knowles, P.E.
District Air Program Administrator
Post Office Box 2549
Fort Myers, Florida 33902-2549
(941) 332-6975

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT ISSUANCE and all copies were mailed by certified mail before the close of business on March 27, 1998 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to §120.57(7), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Janice Wolfe 3-27-98
(Clerk) (Date)

DMK/JRS/jw
Enclosures
Copies furnished to:
Mr. Jeffery F. Koerner, PBCPHU
Mr. David A. Buff, P.E., Golder Associates, Inc.
Mr. Robert F. Van Voorhees, BRYAN CAVE
Mr. William H. Congdon, DEP, OGC
Mr. Bruce Mithcell, DEP, BAR

Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

Mr. A. R. Mayo, Senior Vice President
U.S. Sugar Corporation
P.O. Box 1207
Clewiston, Florida 33440

May 5, 1988

Enclosed is permit No. AC 50-137573, for U.S. Sugar Corporation to increase the steam production from boiler No. 5 at the Bryant Mill located on U.S. Route 98, Clewiston, in northwest Palm Beach County, Florida. This permit is issued pursuant to Section 403, Florida Statutes.

Any Party to this permit has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this permit is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management

Copy furnished to:

D. Knowles, SF Dist.
D. Buff, P.E.
B. Miller, EPA
G. Sacco, PBCHD

Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary

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

Permit Number:AC 50-137573
Expiration Date: May 31, 1989
County: Palm Beach
Latitude/Longitude: 26° 50' 41"N
80° 37' 09"W
Project: Boiler No. 5
Modification

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 17-2 and 17-4. 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:

Authorization to increase the heat input of the No. 5 Boiler to 583 MMBtu/hr, 24 hour average, and 671 MMBtu/hr, maximum 1 hour average, at U.S. Sugar Corporation's existing sugar mill that is located in northwest Palm Beach County on U.S. Route 98, Bryant, Florida. The UTM coordinates of this site are Zone 17, 537.8 km E and 2969.1 km N.

Construction will be in accordance with the permit application and plans, documents, and reference material submitted unless otherwise stated in the General and Specific Conditions herein.

Attachments:

1. Application received December 21, 1987.
2. Hopping, Boyd, Green, & Sams letter dated February 22, 1988.
3. EPA letter dated March 9, 1988.
4. Hopping, Boyd, Green, & Sams letter dated March 22, 1988.
5. Hopping, Boyd, Green, & Sams letter dated March 24, 1988.
6. Hopping, Boyd, Green, & Sams letter dated April 19, 1988 (request for specific condition revision).
7. Hopping, Boyd, Green, & Sams letter dated April 19, 1988 (request for extension in time to file for a hearing).

GENERAL CONDITIONS:

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, steam pressure, steam temperature, heat input, and bagasse consumption shall not exceed the quantities listed below:

Steam PSIG	°F	Averaging Time	Steam Prod. lbs/hr	Heat Input* MMBtu/hour	Bagasse Consumption TPH-Wet
850	900	1-hr max.	323,189	671	93
850	900	24-hr avg.	280,804	583	81
400	750	1-hr max.	338,127	671	93
400	750	24-hr avg.	293,783	583	81

* assuming boiler efficiency for bagasse is 55%

SPECIFIC CONDITIONS:

Steam production shall not exceed 990,676,512 lbs/yr of 850 psig, 900°F steam or 1,036,465,880 lbs/yr of 400 psig, 750°F steam. If steam in both pressure/temperature classes is produced during the year, the allowable steam production, in lbs/yr, is the weighted average of the limits for each class of steam production. The permittee shall maintain records (steam production, pressure, and temperature) to determine compliance with this condition.

2. Heat input from No. 6 residual oil shall not exceed 215.6 MMBtu/hr (approximately 1,467 GPH) and 400,000 gallons per season. Blended fuel oil from the common fuel oil system may be burned in this boiler. Any fuel oil burned in Boiler No. 5 shall be replaced, during the season it is burned, with fuel oil whose sulfur content shall not exceed 0.7%. The boiler shall be equipped with an integrating fuel oil flow meter. The permittee shall maintain a log of the fuel oil consumption and invoices of the fuel oil purchased for this boiler that shows the sulfur content and heating value of the oil (determined by appropriate ASTM methods) to show compliance with this condition.

3. Boiler No. 5 shall not operate commercially during the period of May 1 through October 15.

4. Particulate matter emissions from Boiler No. 5 shall not exceed 0.15 lbs/million Btu heat input for bagasse fuel (assuming 55% efficiency) or 0.10 lbs/million Btu heat input for No. 6 residual oil fuel. In the 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. The compliance test results shall be calculated by assuming the thermal efficiency of Boiler No. 5 is 55 percent for bagasse, or by any new method subsequently adopted by Department rule. For informational purposes only, the particulate matter emission rate shall also be calculated by utilizing both the F factor (for each compliance test) and the short term ASME boiler efficiency test results (once every five years). Scrubber parameters (pressure drop, pressure, and flow) shall be recorded every 15 minutes or continuously during the compliance test.

All compliance tests shall be conducted while the boiler is operating between 90 and 100 percent of its permitted capacity; provided however, if the tests are conducted at less than 90% of the boiler's permitted capacity, the permittee shall notify the

South Florida District office and repeat the compliance tests when the steam production increases by 10% above the tested capacity. The boiler shall not be operated above the permitted capacity. The South Florida District office shall be notified 15 days prior to any compliance test.

5. Visible emissions from Boiler No. 5 shall not exceed 20% opacity except that 40% opacity is allowed for 2 minutes during any one hour. Compliance with the standards shall be determined by DER Method 9 as described in Chapter 17-2, FAC. The particulate matter emissions and visible emissions shall be determined concurrently. Under circumstances when this is not feasible, the company shall obtain prior approval from the South Florida District to conduct the tests at separate times. In such circumstances, the tests shall be conducted as close to each other as is feasible.

6. Bagasse fuel emission factors used in determining rule applicability for this modification are:

Pollutant	Emission Factor
SO_2	0.25 lbs/MMBtu (24 hr-avg), 0.50 lbs/MMBtu (1 hr-avg)
NOx	1.2 lbs/ton wet bagasse
CO	0.25 lbs/MMBtu
VOC	1.4 lbs/ton wet bagasse

7. 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 approved by the Department.

8. The scrubber controlling the emissions from Boiler No. 5 shall be equipped with instruments or the company shall be capable of measuring the gas pressure drop, water pressure, volume flow, and pH of the scrubber water. During one season of operation at the higher steam production rates, readings at 4 hour intervals of the gas pressure drop shall be taken and logged for each day that Boiler No. 5 operates. If any 4 hour average gas pressure drop falls more than twenty-five percent below the average pressure drop recorded during the compliance test, the Department may require a compliance test at the lower pressure drop and may also require the installation of an instrument to continuously measure and record the gas pressure drop.

PERMITTEE:
U.S. Sugar Corporation

Permit Number:AC 50-137573
Expiration Date: May 31, 1989

SPECIFIC CONDITIONS:

Readings at 4 hour intervals of the pH of the scrubber water shall be taken and logged for each day during which bagasse is burned in boiler No. 5 during its first season of operation following issuance of this construction permit. The Department will be notified if chemicals are used to adjust pH. If any 4 hour average pH value falls more than ten percent below the pH that existed during the compliance test for sulfur dioxide, the Department may require the installation of an instrument to continuously measure and record scrubber water pH.

During compliance testing, the scrubber parameters shall be measured and recorded at 15 minute intervals.

Records of the measurements required by this condition shall be obtained each day Boiler No. 5 operates during the first season and copies of the records transmitted to the South Florida District and the Bureau of Air Quality Management at the end of the season.

After review of one complete season's data, the Bureau of Air Quality Management and the South Florida District will establish the scrubber parameters to be monitored and the frequency of monitoring. These requirements shall become a condition to any permit to operate issued for Boiler No. 5. The records required by the permit to operate shall be kept for a minimum of five years for agency inspection.

(testing) Prior to the expiration date of this construction permit, the permittee shall confirm the emission factors used in the application by conducting tests by the procedures described in 40 CFR 60, Appendix A, for each of the pollutant listed in Specific Condition No. 6. This permit does not require routine compliance tests for these pollutants.

9. If visible emissions from the bagasse handling system exceed 20 percent opacity, the permittee shall take reasonable precautions, as approved by the Department, to minimize unconfined emissions. These precautions shall include covered conveyors, minimizing the distance the bagasse is dropped during handling, and windbreaks around the material handling equipment.

10. A test shall be made on Boiler No. 5 to determine its actual thermal efficiency in accordance with the ASME short-form procedure each time the operating permit for the boiler is renewed. The most recent report on the thermal efficiency test shall be included with the application for the permit to operate this boiler.

PERMITTEE:
U.S. Sugar Corporation

Permit Number:AC 50-137573
Expiration Date: May 31, 1989

SPECIFIC CONDITIONS:

11. The boiler will not be operated at the higher steam production rate until EPA modifies the federal permit (PSD-FL-0009) for this source.

12. The permittee will demonstrate compliance with the conditions of the construction permit and submit a complete application for a permit to operate to the South Florida District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of this construction permit until its expiration date.

13. Any permit to operate issued for Boiler No. 5 is limited to 990,676,512 lbs/yr of 850 psig, 900°F steam or 1,036,465,880 lbs/yr of 400 psig, 750°F steam. This limit can be prorated if steam in both classes is produced during a season. The permit to operate shall require the scrubber to be operated at an 8 hour average pressure drop not less than 90 percent of the 8 hour average pressure drop that existed during the particulate tests that showed compliance, or not less than 75% of this pressure drop at any time. The operating permit shall further require, as a minimum, annual particulate matter and visible emissions tests; an annual operation report, which will include the amount of oil burned 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. 8.

Issued this 2 day of May, 1988

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION

Dale Twachtmann

Dale Twachtmann, Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF PERMIT

In the Matter of an
Application for Permit Modification by:

United States Sugar Corporation
Post Office Box 1207
Clewiston, Florida 33440-1207

DEP File No. 0510003-007 AC (PSD-FL-217B)
Clewiston Facility, Boiler No. 4
Hours of Operation
Hendry County

Enclosed is the Final Permit Number 0510003-007 AC for a modification of the U.S. Sugar Corporation. existing air construction permit for Boiler No.4 at the Clewiston facility in Hendry County. The request is to clarify the condition on their existing permit that limits usage of the No. 4 Boiler to 160 days per season and 3849 hours per year.

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Legal Office; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 (thirty) days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

C. H. Fancy, P.E., Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF FINAL PERMIT MODIFICATION (including the FINAL permit modification) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 4-8-99 to the person(s) listed:

Murray T. Brinson, USSC*
David Buff, PE, Golder Associates
Phil Barbaccia, DEP SD
James E. Stormer, PBCHD

Clerk Stamp

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

Kimi Seber 4-8-99
(Clerk) (Date)

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

April 8, 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Murray T. Brinson
Sr. Vice-President, Sugar Processing
United States Sugar Corporation
Post Office Box 1207
Clewiston, Florida 33440-1207

Re: DEP File No. 0510003-007 AC (PSD-FL-217B)
Clewiston Facility, Boiler No. 4
Hours of Operation

Dear Mr. Brinson:

The Department reviewed your request dated March 18, 1999 that the permit condition governing the operating days and hours of the No. 4 Boiler be interpreted to allow operation for 3840 hours per calendar year, consistent with other conditions the referenced permit. The Department agrees as long as the unit operates only during the recognized South Florida sugar season (which straddles two calendar years) as indicated in all relevant applications, permits, and reports to-date. The referenced permit for the No. 4 Boiler is hereby changed as follows:

SPECIFIC CONDITION NO. 4

Boiler No. 4 is limited to 160 days (3,840 hr~~/yr~~) operation per year and only during season.

Note that it is possible, as a result of this change, that the unit might actually operate less than the allowable hours in a calendar year if there is an early end to one season and a late start to the next season. The result is that in the long run the two methods are probably equivalent.

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. This permit modification is issued pursuant to Chapter 403, Florida Statutes. Any party to this order (permit modification) has the right to seek judicial review of it under Section 120.68, F.S., by the filing of a Notice of Appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the Clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within (thirty) days after this Notice is filed with the Clerk of the Department.

Sincerely,

Howard L. Rhodes

Howard L. Rhodes, Director
Division of Air Resources
Management

UNITED STATES SUGAR CORPORATION
Post Office Drawer 1207 Clewiston, Florida 33440
Telephone: (813) 983-8121 Telex: 510-952-7753

December 18, 1985

DER
DEC 21 1987
BAQM

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Bryant Mill Boiler No. 5
Application for Modification of
Permits No. AC50-5177 and A050-110302

Dear Mr. Fancy:

Enclosed for filing please find copies of an application for modification of the referenced Department air permits for Boiler No. 5 at U. S. Sugar Corporation's Bryant Mill. This application replaces our pending application submitted on July 28, 1987. As in the previous application, the requested permit modification would recognize a higher steam production rate for Boiler No. 5 to better reflect the available operating capacity of the boiler. The steam rate increase now sought is less than in the July 28th application, however, to ensure that any increase in PM_{10} emissions will be less than the 15 tons per year "significant increase" figure recently added to the federal PSD regulations. We have chosen this course of action because of the urgent need for increased steam production at the Bryant Mill and in view of the potential for delay in obtaining the larger increase requested in the July 28th application due to the new federal PM_{10} regulations.

The air construction permit (No. AC50-5177) for Boiler No. 5 was originally issued by the Department on September 20, 1978 and modified on August 15, 1979. An air operation permit was issued on October 16, 1980. A renewal air operation permit (No. A050-110302) was issued on October 9, 1985 and revised on December 9, 1985. Both the construction permit and the operation permits contemplated a nominal steam production capacity of 250,000 pounds per hour. It has become apparent that Boiler No. 5 is capable, under certain favorable bagasse conditions, of producing substantially more steam than originally contemplated. U. S. Sugar therefore seeks permit modifications to provide for steam production capacity of up to 280,804 pounds per hour (24-hour average) and 323,189 lb/hr (maximum one hour rate).

The requested increase in steam production rate will help to meet the Bryant Mill's need for additional steam by allowing Boiler No. 5 to operate at its available production capacity. It should also reduce the amount of bagasse surplus stored at the Mill, thereby reducing the potential for emissions of fugitive dust from bagasse storage and handling.

The requested permit modification does not involve a significant increase in the emissions of any regulated pollutant, and thus PSD review is not triggered. We therefore hope that the Department will be able to expeditiously

process the enclosed application. Please be advised that copies of this application are also being provided to the U. S. Environmental Protection Agency's Region IV office because that agency issued a federal PSD permit for Boiler No. 5 on August 30, 1979. It is our understanding that the Department will perform the administrative and technical review in connection with modification of the federal permit, and that EPA Region IV will issue any final modification of that permit.

Attachment "A" to this letter contains U. S. Sugar's responses to the questions numbered 4. through 9. in your letter of August 19, 1987 regarding the previously-submitted application. The questions numbered 1., 2. and 3. in your letter are addressed in the air quality analysis portion of the enclosed application. An analysis of PM_{10} emissions and impacts is provided as Attachment F to the application, solely for informational purposes, as Department rules do not presently require such an analysis.

As you know Mr. Fancy our original application for minor modification was submitted on July 28, 1987 but the PM_{10} matter came into being just about that time which has resulted in significant back and forth discussions with your Department and EPA as to its applicability to this application which has consumed a significant amount of time. We are already way into our processing season and badly need the additional capacity for our process. For this reason we have revised our application to reflect an increase of 15 tons per year down from the 25 tons per year in the original application which is as you know the new limit with PM_{10} for non major modifications in hopes of obtaining the issuance of this permit in the shortest possible time.

We would greatly appreciate anything you can do to expedite this application. Please contact our Mr. Peter Barquin or myself if you need any additional information or clarification.

Sincerely,

UNITED STATES SUGAR CORPORATION

A. R. Mayo
Senior Vice President
Sugar Houses

ARM:jt
Enclosures (3 copies of Application
2 copies of ISCST Model)
cc: Mr. David Knowles
Mr. Bruce Miller
Mr. David Buff
Mr. Peter C. Cunningham

P.S. In conversation today between our Mr. Peter Barquin and your Mr. Williard Hanks in Tallahassee, we were advised that since the enclosure is an amended application no fee is required.

Wayne Aronson - EPA
Pkt + Modeling

G. Sacco - PBC HD
Pkt. only

D. Knowles - Ft. Myers
Pkt. only

Willard Hanks - Pkt

Tom Rogers - Pkt
+ Modeling

RESPONSES TO DER REQUEST FOR
ADDITIONAL INFORMATION DATED AUGUST 19, 1987

4. The estimated date the higher steam production is most likely to occur is during the months of January and February providing weather and harvest conditions are normal. The compliance test should be conducted within the months of January and February.

5. The earliest date we estimate the harvest season to begin is mid-October. The latest date we estimate the season will end is early April. Boiler No. 5 may operate for a few weeks (3 to 4) past the end of the crop season when the quantity of the outdoor stored surplus bagasse warrants it. Boiler No. 5 will not operate during the period of May through mid-October.

6. Our records show the minimum pressure drop across the scrubber required to comply with the emission standards has been seven (7) inches water gauge. Our records also show that the pressure drop across the scrubber has operated in the range of seven (7) to eight and one half (8-1/2) inches water pressure during particulate matter compliance tests.

7. We propose to prove compliance with the hourly emission standards through compliance test results. The daily compliance will be proven from the same compliance test results and the daily steam production as determined from the boiler's steam flow meter integrator reading. The annual emissions compliance will be determined from the compliance test results and the annual steam production from integrator readings of the steam flow meters. The above has been the accepted method for reporting to DER the annual emissions from all our boilers in the past.

8. The "favorable bagasse conditions" mentioned in Attachment "A" depend on the fibrous component of cane which constitutes the bulk of the combustible solids in bagasse, which is made up of an element we call fiber and another called pith. Cane varieties with reduced pith content and a well matured fiber fraction generally produce bagasse which de-waters well in the milling process and dries readily in the furnace producing bagasse with good combustion characteristics. Cane varieties with a high pitch content and a soft, immature fiber fraction not only do not de-water well in the

milling process but also produce bagasse with poorer combustion characteristics due to a reduced fiber dispersion which tends to decrease the exposed surfaces of the fiber to the radiant heat in the furnace reducing the rate of drying of the wet material.

It is impossible to predict how often or for how long this type of cane will be delivered to the mill since aside from variety, cane maturation and field conditions play important roles in this. The tendency is to expect this type of favorable bagasse condition more frequently toward the latter part of the season due to cane maturation, although by then the roll wear on the mills, which tends to affect de-watering, will tend to offset to some extent the favorable characteristic of this bagasse.

Another factor that affects the combustibility of bagasse (even those of otherwise excellent combustion characteristics) are the presence of extraneous material such as soil or leafy trash due to rain, poor harvesting conditions, top heavy cane which cannot stand erect but lies partially on the ground, immature cane, etc.

9. Boiler No. 5 maximum designed operation conditions are 850 psig - 900° F and these operating conditions may not be exceeded.

APPLICATION FOR STEAM RATE INCREASE

U.S. SUGAR CORPORATION
BRYANT BOILER NO. 5

DECEMBER 1987

KBN Engineering and Applied Sciences, Inc.
P.O. Box 14288
Gainesville, Florida 32604
(904) 375-8000

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Bagasse/Oil-fired Boiler [ ] New[1] [X] Existing[1]

APPLICATION TYPE: [ ] Construction [ ] Operation [X] Modification

COMPANY NAME: U.S. Sugar Corporation - Bryant Mill COUNTY: Palm Beach

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) Boiler No. 5

SOURCE LOCATION: Street U.S. Route 98 City Bryant

UTM: East Zone 17 537.8 km North 2969.1 km

Latitude 26 ° 50 ' 41 "N Longitude 80 ° 37 ' 9 "W

APPLICANT NAME AND TITLE: Mr. A.R. Mayo, Vice President

APPLICANT ADDRESS: P.O. Drawer 1207, Clewiston, Florida 33440

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of U.S. Sugar Corporation

I certify that the statements made in this application for a construction permit are true, correct and complete to the best of my knowledge and belief. Further I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: A.R. Mayo

Senior
A.R. Mayo, Vice President
Name and Title (Please Type)

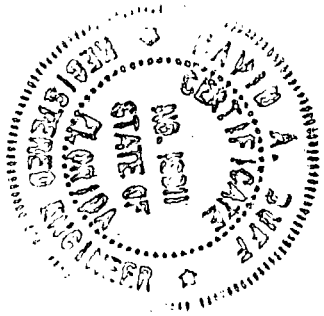
Date: 12-18-87 Telephone No. (813) 983-8121

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

[1] See Florida Administrative Code Rule 17-2.100(57) and (104)

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.



Signed David A. Buff

David A. Buff
Name (Please Type)

KBN Engineering and Applied Sciences, Inc.
Company Name (Please Type)

P.O. Box 14288, Gainesville, Florida 32604
Mailing Address (Please Type)

Florida Registration No. 19011 Date: 12/16/87 Telephone No. (904) 375-8000

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

See Attachment A

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction * Completion of Construction *

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

No additional controls required; the existing scrubber is capable of accomodating the higher steam production rate. The existing stack will be utilized.

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Permit No.	AC50-5177	A050-7096	A050-110302
Issued	9/20/78	10/16/80	10/9/85
Modified	8/15/79	-	12/9/85
Expired	9/20/80	10/16/85	10/9/90

* No physical construction is required. Boiler, control equipment and other associated equipment are capable of accomodating the higher steam production rate requested

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 21* ; if power plant, hrs/yr_____; if seasonal, describe:

*This is an agricultural operation and the length of the crop is dependent upon weather conditions that affect the size of the crop and the harvesting operation, and the operating time may vary but is generally November through March (approximately 21 weeks per year)

F. If this is a new source or major modification, answer the following questions. (Yes or No) Not applicable - Minor modification (see Attachment A)

1. Is this source in a non-attainment area for a particular pollutant? _____

   a. If yes, has "offset" been applied? _____

   b. If yes, has "Lowest Achievable Emission Rate" been applied? _____

   c. If yes, list non-attainment pollutants. _____

2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. _____

3. Does the State "Prevention of Significant Deterioriation" (PSD) requirement apply to this source? If yes, see Sections VI and VII. _____

4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? _____

5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? _____

H. Do "Reasonably Available Control Technology" (RACT) requirements apply to this source? NO

   a. If yes, for what pollutants? _____

   b. If yes, in addition to the information required in this form, any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Not Applicable

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): Not Applicable

2. Product Weight (lbs/hr): steam (see Attachment A)

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

See Attachment A

Name of Contaminant	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard.

[4] Emission, if source operated without control (See Section V, Item 3).

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Spray Impingement	Particulate	>90%	0.1 micron	stack tests
Scrubber (equivalent to JOY				
Turbulaire size 150 Type D				

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Bagasse	See Attachment A		671.0
No. 6 Fuel Oil	See Attachment A		215.6

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis: Bagasse*/Oil

Percent Sulfur: 0-0.1/0.7 Percent Ash: 0.3-4.3/0.1

Density: Oil - 8.4 lbs/gal Typical Percent Nitrogen: 0.03-0.47/0.2-0.9

Heat Capacity: 3600/17,500 BTU/lb Oil - 147,000 BTU/gal

*As-fired (wet) basis

Other Fuel Contaminants (which may cause air pollution): N/A

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average Not Applicable Maximum

G. Indicate liquid or solid wastes generated and method of disposal.

Water from scrubber is used to sluice cane juice mud. Scrubber water is discharged to holding ponds.

4. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 100 ft. Stack Diameter: 7.25 ft.

Gas Flow Rate: 255,206* ACFM 171,816* DSCFM Gas Exit Temperature: 150 °F.

Water Vapor Content: 25 % Velocity: 103.0* FPS

*At maximum 24-hour steam rate

SECTION IV: INCINERATOR INFORMATION

Not Applicable

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq.& Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diamter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner

[ ] Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
   See Attachment A
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
   See Attachment A
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
   See Attachment A
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
   See Attachment A
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency). See Attachment A
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
   Attached
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
   Attached
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
   Attached

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

Not Applicable

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

[ ] Yes [ ] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

[ ] Yes [ ] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control tschnology?

Contaminant	Rate or Concentration

. Describe the existing control and treatment technology (if any).

1. Control Device/System:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height: ft.

b. Diameter: ft.

c. Flow Rate: ACFM

d. Temperature: °F.

e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

[1]Explain method of determining efficiency.
[2]Energy to be reported in units of electrical power - KWH design rate.

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency:[1]

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:[2]

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

[1]Explain method of determining efficiency.
[2]Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

b. (1) Company:

(2) Mailing Address:

(3) City: (4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

10. Reason for selection and description of systems:

[1]Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

Not Applicable

A. Company Monitored Data

1. _____no. sites _____ TSP _____( ) SO^2* _____ Wind spd/dir

Period of Monitoring ____/____/____ to ____/____/____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

a. Was instrumentation EPA referenced or its equivalent? [ ] Yes [ ] No

b. Was instrumentation calibrated in accordance with Department procedures?

[ ] Yes [ ] No [ ] Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from ____/____/____ to ____/____/____
month day year month day year

2. Surface data obtained from (location)_____

3. Upper air (mixing height) data obtained from (location)_____

4. Stability wind rose (STAR) data obtained from (location)_____

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	_____ grams/sec
SO^2	_____ grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

ATTACHMENT A

PROJECT DESCRIPTION

1.0 PROJECT DESCRIPTION

U.S. Sugar Corporation's Bryant Mill is located in northwest Palm Beach County, near the town of Pahokee (see Figures 1-1 and 1-2). Currently, four boilers are permitted to operate at the Bryant mill. Boilers No. 1, 2 and 3 are older bagasse/oil fired boilers. Boiler No. 5 is a newer bagasse/oil fired boiler. A plot plan of the mill is presented in Figure 1-3, and a flow diagram of the process is shown in Figure 1-4.

Operational experience with Bryant Boiler No. 5 has indicated that it is capable, under certain favorable bagasse conditions, of producing more steam than suggested by the design capacity figure that appears in the currently effective air operating permit for the boiler. U.S. Sugar Corporation therefore wishes to conform the figures used in the Boiler No. 5 air operating permit to better reflect the actual steam production capacity of the boiler.

Boiler No. 5 received an air construction permit from the Florida Department of Environmental Regulation (FDER) on September 20, 1978. This construction permit was modified on August 15, 1979. A Prevention of Significant Deterioration (PSD) permit from the U.S. Environmental Protection Agency (USEPA) was issued on August 30, 1979. The boiler was issued an FDER air operation permit on October 16, 1980, which was renewed on October 9, 1985, and modified on December 9, 1985.

The current FDER air operation permit indicates that Boiler No. 5 has a nominal design steam production capacity of 250,000 pounds per hour (lb/hr) as a 24-hour average. U.S. Sugar now seeks revision of the steam production capacity indicated in the Boiler No. 5 permit to better reflect the actual capacity of Boiler No. 5. Specifically, a permit revision to indicate steam production capacity for Boiler No. 5 of 280,804 lb/hr (24-hour average) and 323,189 lb/hr (maximum 1-hour rate) is requested. No physical changes to Boiler No. 5 will be required to achieve the steam rate increase. The existing equipment, including bagasse handling equipment and wet scrubber, are already capable of accommodating the increased steam production rates.

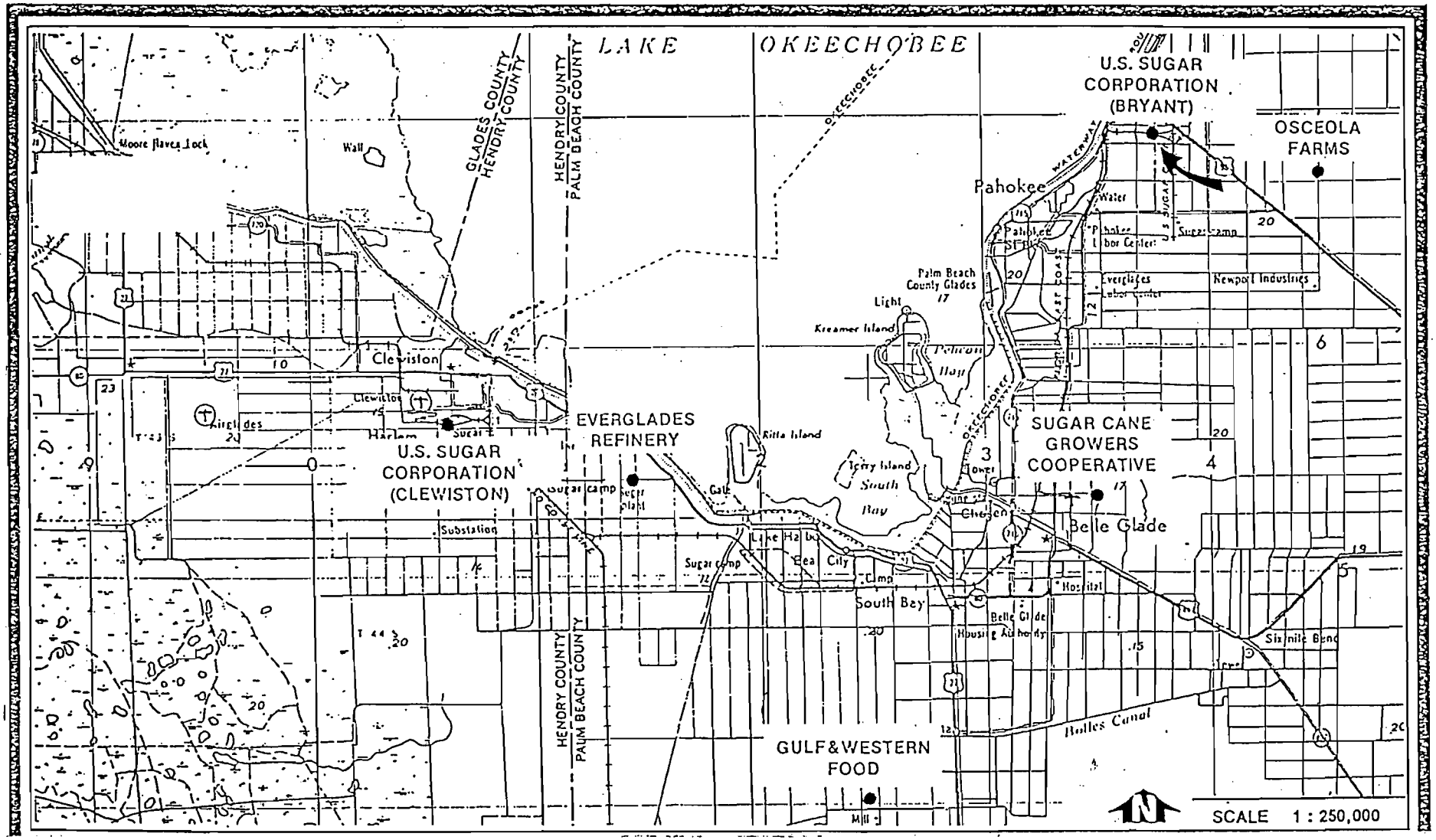


Figure 1-1. Location of U.S. Sugar Corporation Bryant Mill, Palm Beach County, Florida

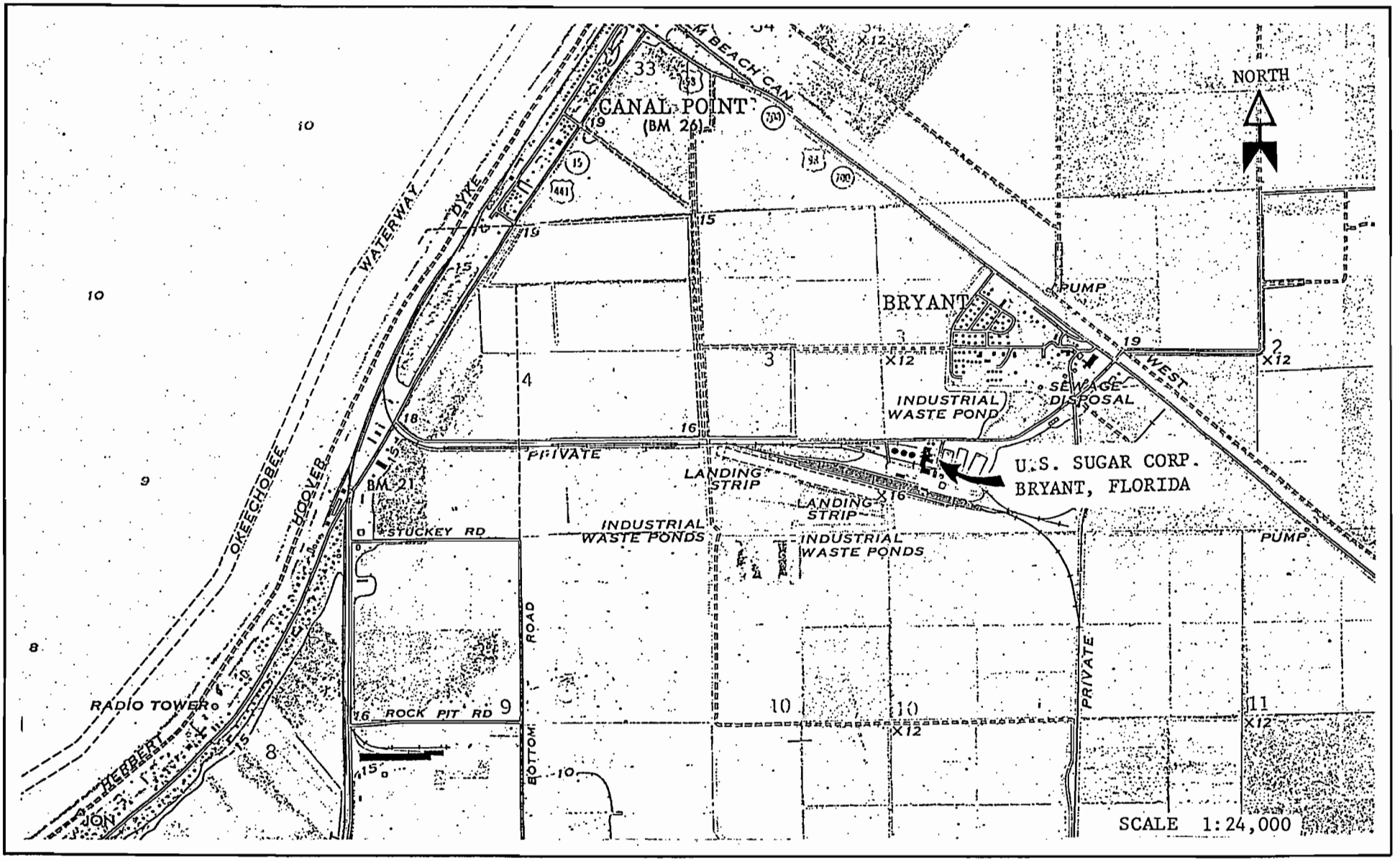


Figure 1-2. Location Map of Bryant Mill, U.S. Sugar Corporation

KBN

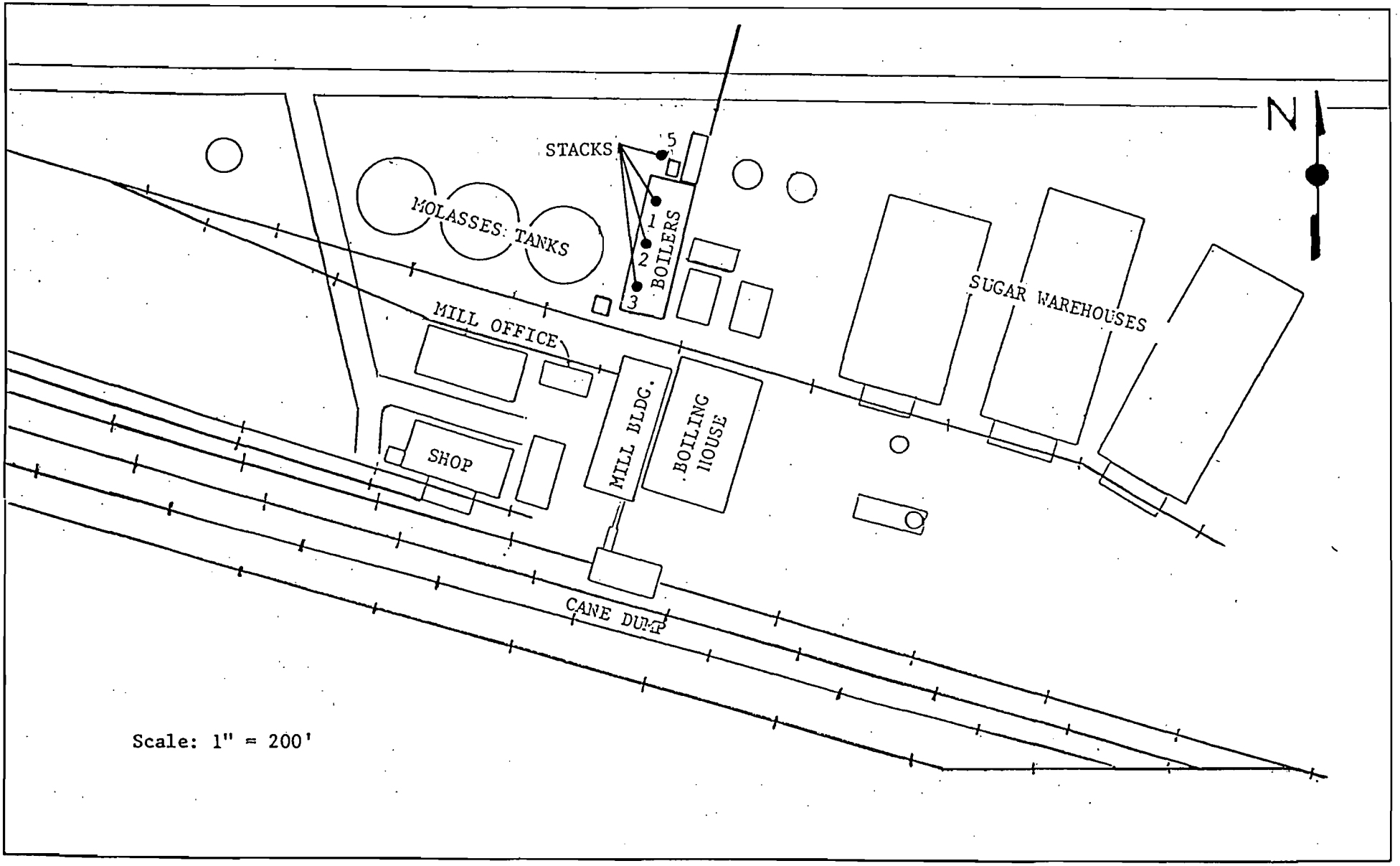


Figure 1-3. Plot Plan of U.S. Sugar Corporation, Bryant Mill

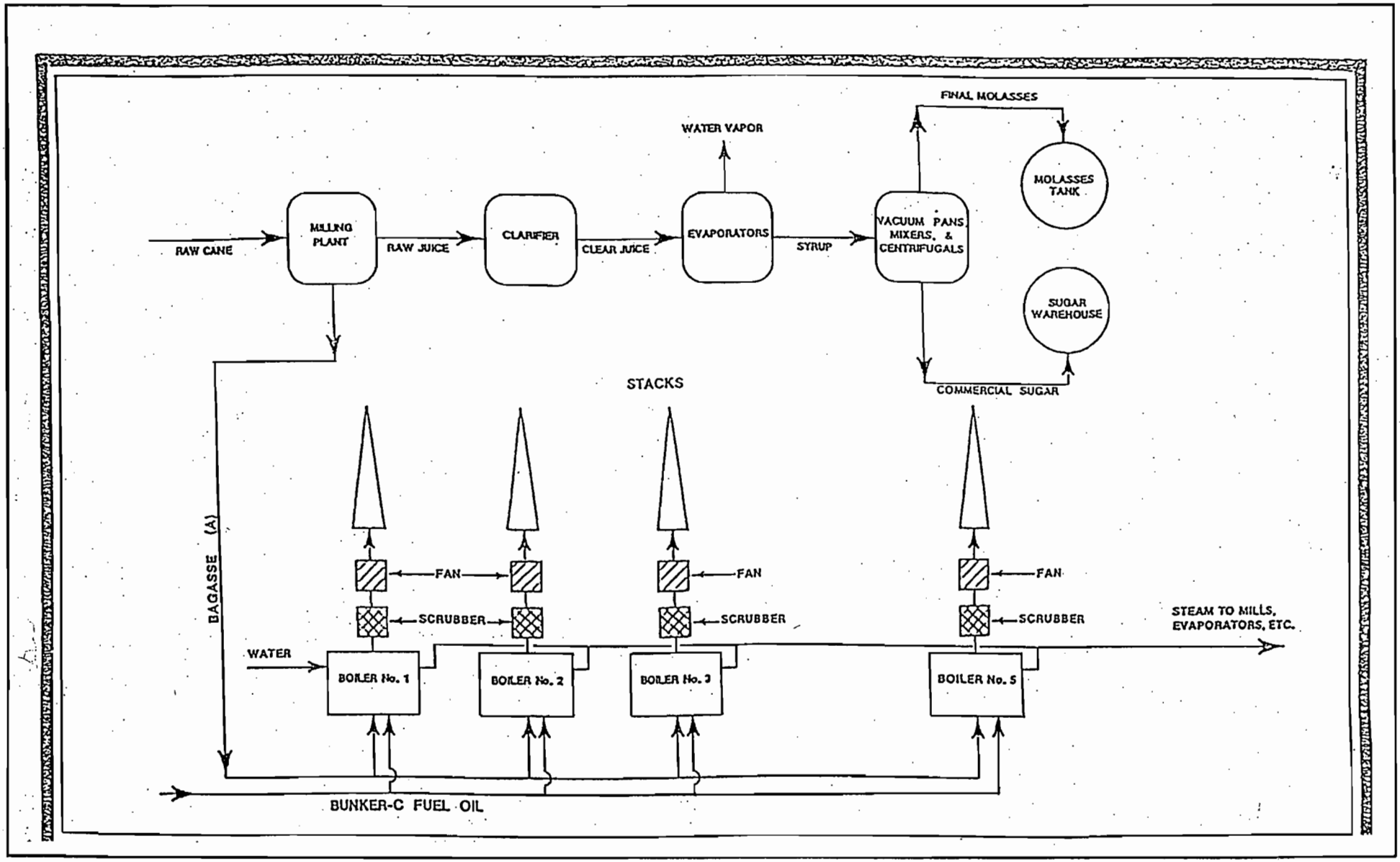


Figure 1-4. Process Flow Diagram, Bryant Mill, U.S. Sugar Corporation

No increase in the maximum fuel oil burning rate for Boiler No. 5 is being requested.

A summary of operating data for Boiler No. 5, at both the current and the increased steam production rates, is presented in Table 1-1. Supportive calculations are presented in Attachment B.

2.0 EMISSIONS FROM BOILER NO. 5

The increased steam production rates associated with Boiler No. 5 will require increased bagasse burning to supply the heat necessary to generate the steam. The increased fuel burning rates will result in an increase in air emissions from the boiler. A summary of the proposed air emission rates for Boiler No. 5, reflective of the increased steam production rates, is presented in Table 2-1. Emissions in terms of maximum hourly, maximum 24-hour average, and maximum annual are shown, and emission factors are presented ($lb/10^6$ Btu) for each fuel fired. The basis of the emission factors and emission rates, and supportive calculations, are presented in Attachment B.

In the case of sulfur dioxide (SO_2), different emission factors were used for the short-term and annual average averaging times. For the short-term averaging times (i.e., 24-hours or less), a reasonable maximum bagasse sulfur content was considered to be 0.2% (dry basis). This value has been used in other sugar industry permit applications, such as the U.S. Sugar Clewiston Boiler No. 4 steam rate increase application.

In developing a reasonable annual average bagasse sulfur content, bagasse analysis from the Florida Sugar Cane League (FSCL) was reviewed. Two recent studies prepared by the FSCL presented extensive analysis of bagasse samples from the sugar cane industry. In the first study (FSCL, 1985), seventy-three (73) bagasse samples were analyzed, and the average sulfur content was 0.06% (dry basis). In the second study (FSCL, 1986), forty (40) bagasse samples were analyzed, and the average sulfur content was 0.081% (dry basis). Based upon the extensive bagasse analysis available, a maximum

Table 1-1. Proposed Maximum Operating Rates, U.S. Sugar Bryant Boiler No. 5.

Parameter	Averaging Time	
	1-Hour	24-Hour
Steam Rate (lb/hr)	323,189	280,804
Heat Input Rate (10^6 Btu/hr)		
Bagasse only	671.0	583.0
Bagasse/fuel oil*	455.4/215.6	367.4/215.6
Fuel Burning Rate (lb/hr)**		
Bagasse only	186,389	161,944
Bagasse/fuel oil*	126,500/12,320	102,056/12,320

* At maximum fuel oil burning rate with remainder from bagasse.
** Bagasse on as-fired (wet) basis.

Table 2-1. Summary of Proposed Emission Rates, Bryant Boiler No. 5

Pollutant	Emission Factor ($lb/10^6$ Btu)		Emissions When Burning 100% Bagasse		Emissions When Burning Maximum Fuel Oil*		Maximum Annual Emissions (tons/yr)
	Bagasse	Fuel Oil	Maximum Hourly (lb/hr)	Max 24-hr Average (lb/hr)	Maximum Hourly (lb/hr)	Max 24-hr Average (lb/hr)	
Particulate Matter(TSP)	0.15	0.10	100.65	87.45	89.87	76.67	154.26
Sulfur Dioxide	0.50**	0.75	335.5	291.5	389.4	345.4	271.9
Nitrogen Oxides	0.17	0.46	114.1	99.1	176.6	161.7	183.3
Carbon Monoxide	0.25	0.034	167.8	145.8	121.2	99.2	257.1
Volatile Org. Cmpds.	0.194	0.0052	130.2	113.1	89.4	72.4	199.5

* With remainder of heat input due to bagasse burning.
** On an annual average basis, emission factor is 0.25 $lb/10^6$ Btu

annual average sulfur content in bagasse was considered to be 0.10% (dry basis). The two FSCL studies show average sulfur levels well below the 0.10% level. In developing the emission factors shown in Table 2-1, these short and long term average bagasse sulfur contents were used, assuming 100% conversion of the sulfur to SO_2 and no SO_2 removal efficiency in the boiler/wet scrubber system for Boiler No. 5.

Maximum annual average emission rates for Boiler No. 5 at the increased steam production rates were calculated on the basis of the maximum 24-hour average steam production and heat input rates, assuming 147 crop days per year. However, it should be recognized that the U.S. Sugar Bryant mill is an agricultural operation and the length of the crop is dependent upon weather conditions that affect the size of the crop and the harvesting operation. The actual operating days fluctuate, sometimes considerably. It is the total annual steam production, together with the emission rates, that determine and limit the annual emissions. The number of days of operation per se is not seen as a limitation to the operation of Boiler No. 5.

As a result, it is requested that a limit not be placed on operating hours or days for the boiler. As an alternative measure to insure that the requested annual emissions will not be exceeded, a limit can be placed upon total annual steam production. Based upon the maximum 24-hour average steam rate of 280,804 lb/hr, the annual steam production limitation is calculated as follows:

280,804 lb/hr x 24 hr/day x 147 days/yr
= 990,676,512 lb/yr steam.

3.0 SOURCE APPLICABILITY

Presented in Table 3-1 is a comparison of air emissions from Boiler No. 5 at the steam production rate currently indicated in its air operating permit and air emissions at the proposed increased steam production rate. The "current" emission rates shown were obtained from the original USEPA PSD permit or developed based upon information contained in the original air construction permit application for Boiler No. 5. Major factors from the

Table 3-1. Current, Proposed and Net Increase in Emissions, U.S. Sugar Bryant Boiler No. 5

Pollutant	Current Emissions			Proposed Future Emissions			Net Emissions Increase			PSD Significant Emission Rate (TPY)
	Maximum 1-Hr (lb/hr)	Maximum 24-Hr Avg. (lb/hr)	Maximum Annual (TPY)	Maximum 1-Hr (lb/hr)	Maximum 24-Hr Avg. (lb/hr)	Maximum Annual (TPY)	Maximum 1-Hr (lb/hr)	Maximum 24-Hr Avg. (lb/hr)	Maximum Annual (TPY)	
Particulate Matter(TSP)	78.41	78.41	138.31	100.65	87.45	154.26	22.24	9.04	15.95	25
Sulfur Dioxide	257.8	257.8	250.0	389.4	345.4	271.9	131.6	87.6	21.9	40
Nitrogen Oxides	139.2	139.2	160.7	176.6	161.7	183.3	37.4	22.5	22.6	40
Carbon Monoxide	130.7	130.7	230.6	167.8	145.8	257.1	37.1	15.1	26.5	100
Vol. Org. Compounds	101.4	101.4	178.9	130.2	113.1	199.5	28.8	11.7	20.6	40

Note: Worst case emissions for PM, CO and VOC occur when burning 100% bagasse; worst case emissions for SO_2 and NO_x occur when burning the maximum allowable fuel oil with the remainder of heat input due to bagasse.

TPY = Tons Per Year

original air permitting effort affecting the emission rate calculations are summarized below:

* 250,000 lb/hr average steam, 522.7 x 10^6 Btu/hr heat input rate

* Particulate matter (PM) emissions limited to 0.15 lb/10^6 Btu from bagasse and 0.10 lb/10^6 Btu from fuel oil.

* Fuel usage (bagasse/fuel oil) limits set solely to limit SO_2 emissions to less than 250 tons/year. Maximum fuel sulfur content assumed to be 0.05% (wet basis) in bagasse and 0.7% in fuel oil. No SO_2 removal in the boiler/wet scrubber system was assumed.

* Nitrogen oxides (NO_x) emissions based upon emission factor; emissions were not estimated for carbon monoxide (CO) or for volatile organic compounds (VOC).

* Annual emissions based upon 147 crop days per year at an average production rate of 250,000 lb/hr steam, or 522.7 x 10^6 Btu/hr heat input rate.

Detailed calculations presenting the basis for the current emissions are contained in Attachment C.

Three averaging times are reflected in Table 3-1: 1-hour, 24-hour, and annual average. The proposed maximum emissions for each pollutant reflect the worst-case fuel mix (i.e., bagasse only or bagasse/oil combination).

The net increase in emissions associated with the proposed steam rate increase is shown in Table 3-1 for each pollutant and averaging time. For comparison purposes, the PSD significant emission rates are also shown. As indicated, the net increases on an annual basis are less than the PSD

significant emission rate for each pollutant. As a result, the proposed modification is not subject to PSD review.

4.0 STACK PARAMETERS

The existing stack serving Boiler No. 5 will continue to be utilized after the proposed steam rate increase is implemented. Since the existing scrubber serving Boiler No. 5 is already capable of handling the greater exhaust gas flow which will result from the higher steam production rates, no change in exit gas temperature is expected. Exhaust gas flow rates will increase at the higher steam production rates due to increased bagasse burning. Exhaust gas flow rates at the proposed maximum steam rates were estimated on the basis of a recent stack test on Boiler No. 5. Both maximum 1-hour and 24-hour flow rates were estimated, and are shown in Table 4-1.

5.0 AIR QUALITY ANALYSIS

An air quality impact analysis of total suspended particulate matter PM(TSP) emissions has been performed for the Bryant Mill. This analysis was performed to demonstrate compliance with the Florida ambient air quality standards (AAQS) and USEPA/Florida allowable PSD increments for TSP. The analysis is presented in Attachment E.

Table 4-1. Exhaust Gas Flow Rates for Boiler No. 5 at Current and Proposed Operating Rates*

Condition	Steam Rate (lb/hr)	Heat Input Rate (10^6 Btu/hr)	Estimated Gas Flow Rate** (acfm)	(dscfm)	Estimated Exit Velocity+ (ft/s)
Current Operating Rate	250,000	522.7	228,810	154,045	92.4
Proposed Operating Rates					
Maximum 1-hour	323,189	671.0	293,728	197,751	118.6
Maximum 24-hour	280,804	583.0	255,206	171,816	103.0

* Reflective of maximum steam production rates and burning bagasse only.
** Based upon stack tests conducted on Boiler No. 5 on February 5, 1987, burning bagasse only.
+ Stack diameter is 7.25 ft.

REFERENCES

Florida Sugar Cane League, 1985. Study on Application of the F-Factor to Bagasse-Fired Boilers. Clewiston, Florida, 33440.

Florida Sugar Cane League, 1986. F-Factor Study, 1986. Clewiston, Florida, 33440.

ATTACHMENT B

BRYANT BOILER NO. 5 EMISSION CALCULATIONS

ATTACHMENT B

Bryant Boiler No. 5 Emission Calculations

A. BOILER OPERATING DATA

1. Steam Enthalpies

Boiler feedwater @ 340°F = 311.3 Btu/lb

Steam @ 850 psig, 900°F = 1453.2 Btu/lb

Heat gain by steam = 1453.2 - 311.3 = 1141.9 Btu/lb

2. Steam Rate Calculations

a. Assumptions

All calculations based upon 55% boiler efficiency when firing bagasse, 80% boiler efficiency when firing oil.

b. Maximum hourly steam production

Maximum hourly heat input = 671.0 x 10^6 Btu/hr

671.0 x 10^6 Btu/hr x 0.55 / 1141.9 Btu/lb = 323,189 lb/hr steam

c. Maximum 24-hour average steam production

Maximum 24-hour average heat input = 583.0 x 10^6 Btu/hr

583.0 x 10^6 Btu/hr x 0.55 / 1141.9 Btu/lb = 280,804 lb/hr steam

3. Bagasse Burning Rate Calculations

a. Assumptions

Calculations based upon a minimum bagasse heating value of 3600 Btu/lb (wet)

b. Maximum hourly bagasse burning rate

671.0 x 10^6 Btu/hr / 3600 Btu/lb = 186,389 lb/hr bagasse

c. Maximum 24-hour average bagasse burning rate

583.0 x 10^6 Btu/hr / 3600 Btu/lb = 161,944 lb/hr bagasse

d. Maximum bagasse burning rate when burning maximum amount of fuel oil:

Maximum heat input due to fuel oil = 215.6 x 10^6 Btu/hr

(same as in original permit application)

Remainder of heat input due to bagasse burning -

Maximum hourly: 671.0 - 215.6 = 455.4 x 10^6 Btu/hr

Bagasse burning rate = 455.4 x 10^6 / 3600 Btu/lb = 126,500 lb/hr

Maximum 24-hour average: 583.0 - 215.6 = 367.4 x 10^6 Btu/hr

Bagasse burning rate = 367.4 x 10^6 / 3600 = 102,056 lb/hr

4. Fuel Oil Burning Rates

From original permit application - maximum heat input due to fuel oil = 215.6 x 10^6 Btu/hr

Associated steam production, based upon 80% boiler efficiency when burning fuel oil = 215.6 x 10^6 Btu/hr x 0.80 / 1141.9 Btu/lb

= 151,047 lb/hr steam

Fuel oil consumption, No. 6 oil, 0.7% S (max), 17,500 Btu/lb:

215.6 x 10^6 Btu/hr / 17,500 Btu/lb = 12,320 lb/hr oil

5. Annual Operating Data

The annual emission limit for each pollutant was calculated based on an annual steam production rate of 990,676,512 lb/yr steam at 850 psig, 900°F, and an annual heat input to the boiler of 2,056,824 x 10^6 Btu/yr. This is equivalent to 147 days of operation at the maximum 24-hour average steam production rate.

Total Btu heat input on annual basis based upon maximum 24-hour average heat input:

583.0 x 10^6 Btu/hr x 24 hr/day x 147 crop days/yr

= 2,056,824 x 10^6 Btu/yr

Maximum annual heat input due to fuel oil:

400,000 gal/yr x 8.4 lb/gal x 17,500 Btu/lb = 58,800 x 10^6 Btu/yr

Heat input from bagasse when maximum amount of fuel oil is burned:

2,056,824 x 10^6 Btu/yr - 58,800 x 10^6 Btu/yr

= 1,998,024 x 10^6 Btu/yr

B. EMISSION CALCULATIONS

1. Particulate Matter (TSP)

a. Emission factors

Bagasse : 0.15 lb/10^6 Btu (current permit limit)

Fuel Oil: 0.10 lb/10^6 Btu (current permit limit)

b. Maximum hourly emissions

Maximum bagasse burning: 671.0 x 10^6 Btu/hr x 0.15 lb/10^6 Btu

= 100.65 lb/hr

Maximum fuel oil burning with remainder due to bagasse burning:

Fuel oil- 215.6 x 10^6 Btu/hr x 0.10 lb/10^6 Btu

= 21.56 lb/hr

Bagasse - 455.4 x 10^6 Btu/hr x 0.15 lb/10^6 Btu

= 68.31 lb/hr

Total = 21.56 + 68.31 = 89.87 lb/hr

c. Maximum 24-hour average emissions

Maximum bagasse burning: 583.0 x 10^6 Btu/hr x 0.15 lb/10^6 Btu

= 87.45 lb/hr

Maximum fuel oil burning with remainder due to bagasse burning:

Fuel oil- same as max hourly - 21.56 lb/hr

Bagasse - 367.4 x 10^6 Btu/hr x 0.15 lb/10^6 Btu

= 55.11 lb/hr

Total = 21.56 + 55.11 = 76.67 lb/hr

d. Annual emissions

Maximum annual emissions based upon worst case fuel (bagasse):

2,056,824 x 10^6 Btu/yr x 0.15 lb/Btu / 2000 lb/ton = 154.26 tons/yr

2. Sulfur dioxide (SO_2)

a. Emission factors

Bagasse : Maximum of 0.2% S (dry basis) in bagasse (@ 8,000 Btu/lb, dry). Annual average sulfur content of bagasse is less than 0.1% S (dry basis).

Maximum emission factor:

0.002 lb S/lb bagasse x 2 lb SO_2/lb S / 8000 Btu/lb

= 0.50 lb SO_2/10^6 Btu

Annual average emission factor:

0.001 lb S/lb bagasse x 2 lb SO_2/lb S / 8000 Btu/lb

= 0.25 lb $SO_2/10^6$ Btu

Fuel Oil: AP-42 Factor (Table 1.3-1) - 157 S lb/1000 gal

Fuel sulfur content = 0.7%

Fuel heating value = 17,500 Btu/lb @ 8.4 lb/gal = 147,000 Btu/gal

Emission factor = 157 (0.7) = 109.9 lb/1000 gal

109.9 lb/1000 gal / 147,000 Btu/gal = 0.75 lb $SO_2/10^6$ Btu

b. Maximum hourly emissions

Maximum bagasse burning: 671.0 x 10^6 Btu/hr x 0.50 lb/10^6 Btu

= 335.5 lb/hr

Maximum fuel oil burning with remainder due to bagasse burning:

Fuel oil- 215.6 x 10^6 Btu/hr x 0.75 lb/10^6 Btu = 161.7 lb/hr

Bagasse - 455.4 x 10^6 Btu/hr x 0.50 lb/10^6 Btu = 227.7 lb/hr

Total = 161.7 + 227.7 = 389.4 lb/hr

c. Maximum 24-hour average emissions

Maximum bagasse burning: 583.0 x 10^6 Btu/hr x 0.50 lb/10^6 Btu

= 291.5 lb/hr

Maximum fuel oil burning with remainder due to bagasse burning:

Fuel oil- same as max hourly - 161.7 lb/hr

Bagasse - 367.4 x 10^6 Btu/hr x 0.50 lb/10^6 Btu

= 183.7 lb/hr

Total = 161.7 + 183.7 = 345.4 lb/hr

d. Annual emissions

Maximum annual emissions based upon maximum fuel oil burning plus remainder of heat input due to bagasse burning

Fuel oil- 58,800 x 10^6 Btu/yr x 0.75 lb/10^6 Btu / 2000 lb/ton

= 22.1 tons/yr

Bagasse - Remainder of annual heat input due to bagasse

1,998,024 x 10^6 Btu/yr x 0.25 lb/10^6 Btu

/ 2000 lb/ton = 249.8 tons/yr

Total - 22.1 + 249.8 = 271.9 tons/yr

3. Nitrogen oxides (NO_x)

a. Emission factors

Bagasse : AP-42 Factor (Table 1.8-1) - 1.2 lb/ton (wet)

1.2 lb/ton / 2000 lb/ton / 3600 Btu/lb = 0.17 lb/10^6 Btu

Fuel Oil: AP-42 Factor (Table 1.3-1) - 67 lb/1000 gal,

67 lb/1000 gal / 147,000 Btu/gal = 0.46 lb/10^6 Btu

b. Maximum hourly emissions

Maximum bagasse burning: 671.0 x 10^6 Btu/hr x 0.17 lb/10^6 Btu

= 114.1 lb/hr

Maximum fuel oil burning with remainder due to bagasse burning:

Fuel oil- 215.6 x 10^6 Btu/hr x 0.46 lb/10^6 Btu = 99.2 lb/hr

Bagasse - 455.4 x 10^6 Btu/hr x 0.17 lb/10^6 Btu = 77.4 lb/hr

Total = 99.2 + 77.4 = 176.6 lb/hr

c. Maximum 24-hour average emissions

Maximum bagasse burning: 583.0 x 10^6 Btu/hr x 0.17 lb/10^6 Btu

= 99.1 lb/hr

Maximum fuel oil burning with remainder due to bagasse burning:

Fuel oil- same as max hourly - 99.2 lb/hr

Bagasse - 367.4 x 10^6 Btu/hr x 0.17 lb/10^6 Btu = 62.5 lb/hr

Total = 99.2 + 62.5 = 161.7 lb/hr

d. Annual emissions

Maximum annual emissions based upon maximum fuel oil burning plus remainder of heat input due to bagasse burning

Fuel oil- 58,800 x 10^6 Btu/yr x 0.46 lb/10^6 Btu

/ 2000 lb/ton = 13.5 tons/yr

Bagasse - Remainder of annual heat input due to bagasse

1,998,024 x 10^6 Btu/yr x 0.17 lb/10^6 Btu

/ 2000 lb/ton = 169.8 tons/yr

Total - 13.5 + 169.8 = 183.3 tons/yr

4. Carbon monoxide (CO)

   a. Emission factors

      Bagasse : From U.S. Sugar Clewiston Boiler No. 4 permit application, maximum CO estimated at 0.25 lb/10^6 Btu

      Fuel Oil: AP-42 Factor (Table 1.3-1) - 5 lb/1000 gal

      5 lb/1000 gal / 147,000 Btu/gal = 0.034 lb/10^6 Btu

   b. Maximum hourly emissions

      Maximum bagasse burning: 671.0 x 10^6 Btu/hr x 0.25 lb/10^6 Btu = 167.8 lb/hr

      Maximum fuel oil burning with remainder due to bagasse burning:

      Fuel oil- 215.6 x 10^6 Btu/hr x 0.034 lb/10^6 Btu = 7.3 lb/hr

      Bagasse - 455.4 x 10^6 Btu/hr x 0.25 lb/10^6 Btu = 113.9 lb/hr

      Total = 7.3 + 113.9 = 121.2 lb/hr

   c. Maximum 24-hour average emissions

      Maximum bagasse burning: 583.0 x 10^6 Btu/hr x 0.25 lb/10^6 Btu = 145.8 lb/hr

      Maximum fuel oil burning with remainder due to bagasse burning:

      Fuel oil- same as max hourly - 7.3 lb/hr

      Bagasse - 367.4 x 10^6 Btu/hr x 0.25 lb/10^6 Btu = 91.9 lb/hr

      Total = 7.3 + 91.9 = 99.2 lb/hr

   d. Annual emissions

      Maximum annual emissions based upon worst case fuel (bagasse):

      2,056,824 x 10^6 Btu/yr x 0.25 lb/Btu / 2000 lb/ton = 257.1 tons/yr

5. Volatile organic compounds (VOC)

   a. Emission factors

      Bagasse : Emission factor based upon AP-42 factor for wood waste combustion (Table 1.6-1) - 1.4 lb/ton (wet; non-methane VOC)

      1.4 lb/ton / 2000 lb/ton / 3600 Btu/lb = 0.194 lb/10^6 Btu

      Fuel Oil: AP-42 Factor (Table 1.3-1) - 0.76 lb/1000 gal (non-methane VOC)

      0.76 lb/1000 gal / 147,000 Btu/gal = 0.0052 lb/10^6 Btu

b. Maximum hourly emissions

Maximum bagasse burning:

671.0 x 10^6 Btu/hr x 0.194 lb/10^6 Btu = 130.2 lb/hr

Maximum fuel oil burning with remainder due to bagasse burning:

Fuel oil- 215.6 x 10^6 Btu/hr x 0.0052 lb/10^6 Btu = 1.1 lb/hr

Bagasse - 455.4 x 10^6 Btu/hr x 0.194 lb/10^6 Btu = 88.3 lb/hr

Total = 1.1 + 88.3 = 89.4 lb/hr

c. Maximum 24-hour average emissions

Maximum bagasse burning:

583.0 x 10^6 Btu/hr x 0.194 lb/10^6 Btu = 113.1 lb/hr

Maximum fuel oil burning with remainder due to bagasse burning:

Fuel oil- same as max hourly - 1.1 lb/hr

Bagasse - 367.4 x 10^6 Btu/hr x 0.194 lb/10^6 Btu = 71.3 lb/hr

Total = 1.1 + 71.3 = 72.4 lb/hr

d. Annual emissions

Maximum annual emissions based upon worst case fuel (bagasse):

2,056,824 x 10^6 Btu/yr x 0.194 lb/Btu / 2000 lb/ton = 199.5 tons/yr

ATTACHMENT C

BASIS OF ORIGINAL PSD PERMIT FOR BOILER NO. 5

ATTACHMENT C

Basis of Original PSD Permit (Issued August 30, 1979)

A. Boiler Design Parameters

Maximum heat input = 522.7 x 10^6 Btu/hr

Maximum operating days = 147

Maximum heat input from fuel oil = 215.6 x 10^6 Btu/hr

Maximum bagasse burned = 145,194 lb/hr

Maximum fuel oil burned = 1,467 gal/hr

Bagasse specifications: 3600 Btu/lb (wet)
Sulfur content = 0.05% (wet)

Fuel oil specifications: 17,500 Btu/lb @ 8.4 lb/gal
Sulfur content = 0.7%

B. Emission Rates

a. PM

Basis - 0.15 lb/10^6 Btu for bagasse, 0.1 lb/10^6 Btu for oil

Maximum hourly emissions: 522.7 x 10^6 Btu/hr x 0.15 lb/10^6 Btu
= 78.405 lb/hr

Maximum annual emissions: 78.405 lb/hr x 24 hr/day x 147 days/yr
/ 2000 lb/ton = 138.31 tons/yr

b. SO_2

Basis - 0.8 lb/10^6 Btu for 0.7% S oil
0.05% S (wet) for bagasse

Maximum hourly emission occur when burning max oil plus bagasse.

Fuel oil: 215.6 x 10^6 Btu/hr x 0.8 lb/10^6 Btu = 172.48 lb/hr

Bagasse : Heat input due to bagasse = 522.7 - 215.6 = 307.1 x 10^6 Btu/hr

Bagasse burning rate = 307.1 x 10^6 Btu/hr / 3600 Btu/lb
= 85,306 lb/hr

85,306 lb/hr x 0.0005 lb S/lb bag x 2 lb SO_2/lb S
= 85.31 lb/hr (wet)

Total = 172.48 + 85.31 = 257.79 lb/hr

Maximum annual emissions (based upon fuel usage limits in permit which were set solely to limit SO_2 emissions to 250 tons per year or less):

Fuel Oil - 400,000 gal/yr x 8.4 lb/gal x 17,500 Btu/lb x 0.8 lb/10^6 Btu / 2000 lb/ton = 23.5 tons/yr

Bagasse - 226,500 tons/yr x 0.0005 x 2 / 2000 lb/ton = 226.5 tons/yr

Total - 23.5 + 226.5 = 250.0 tons/yr

c. NO_x

Basis - 1.2 lb/ton (wet) for bagasse
60 lb/1000 gal for oil

Maximum hourly emissions:

Bagasse only burning: 145,194 lb/hr / 2000 lb/ton x 1.2 lb/ton = 87.1 lb/hr

Max fuel oil burning with bagasse:

Fuel oil @ 1,467 gal/hr x 60 lb/1000 gal = 88.0 lb/hr

Bagasse @ 85,306 lb/hr / 2000 lb/ton x 1.2 lb/ton = 51.2 lb/hr

Total = 88.0 + 51.2 = 139.2 lb/hr

Maximum annual emissions (occurs when burning max oil plus bagasse)

Equivalent hours of burning fuel oil at maximum rate

= 400,000 gal / 1,467 gal/hr = 272.67 hours = 11.4 days

Therefore, days when burning all bagasse = 147 - 11.4 = 135.6 days

NO_x emissions when burning fuel oil at max rate when bagasse

= 139.2 lb/hr x 24 x 11.4 days / 2000 = 19.0 tons/yr

NO_x emissions when burning all bagasse

= 87.1 lb/hr x 24 x 135.6 days / 2000 = 141.7 tons/yr

Total - 19.0 + 141.7 = 160.7 tons/yr

d. CO

Basis - Bagasse - No emissions given for CO from bagasse burning in original permit application. Therefore, factor used in the present application (0.25 lb/10^6 Btu) was used as basis.

Fuel oil - 5 lb/1000 gal (0.034 lb/10^6 Btu)

Maximum hourly emissions occur when burning bagasse:

522.7 x 10^6 Btu/hr x 0.25 lb/10^6 Btu = 130.7 lb/hr

Maximum annual emissions - also occur when burning all bagasse

130.7 lb/hr x 24 hr/day x 147 days/yr / 2000 lb/ton - 230.6 tons/yr

e. VOC

Basis: Bagasse - No emissions given for VOC from bagasse burning in original permit application. Therefore, factor used in the present application (1.4 lb/ton wet, or 0.194 lb/10^6 Btu) was used as basis.

Fuel oil - 1 lb/1000 gal (0.0068 lb/10^6 Btu)

Maximum hourly emissions occur when burning bagasse:

522.7 x 10^6 x 0.194 = 101.4 lb/hr

Maximum annual emissions - also occur when burning all bagasse:

101.4 lb/hr x 24 x 147 / 2000 = 178.9 tons/yr

ATTACHMENT D

SUPPORTIVE INFORMATION

TABLE 1.3-1. UNCONTROLLED EMISSION FACTORS FOR FUEL OIL COMBUSTION

EMISSION FACTOR RATING: A

Boiler Type[a]	Particulate Matter[b]		Sulfur Dioxide[c]		Sulfur Trioxide		Carbon Monoxide[d]		Nitrogen Oxide[e]		Volatile Organics[f] Nonmethane		Methane	
	$kg/10^3 l$	$lb/10^3 gal$	$kg/10^3 l$	$lb/10^3 gal$	$kg/10^3 l$	$lb/10^3 gal$	$kg/10^3 l$	$lb/10^3 gal$	$kg/10^3 l$	$lb/10^3 gal$	$kg/10^3 l$	$lb/10^3 gal$	$kg/10^3 l$	$lb/10^3 gal$
Utility Boilers														
Residual Oil	g	g	19S	157S	0.34S[h]	2.9S[h]	0.6	5	8.0 (12.6)(5)[i]	67 (105)(42)[i]	0.09	0.76	0.03	0.28
Industrial Boilers														
Residual Oil	g	g	19S	157S	0.24S	2S	0.6	5	6.6[j]	55[j]	0.034	0.28	0.12	1.0
Distillate Oil	0.24	2	17S	142S	0.24S	2S	0.6	5	2.4	20	0.024	0.2	0.006	0.052
Commercial Boilers														
Residual Oil	g	g	19S	157S	0.24S	2S	0.6	5	6.6	55	0.14	1.13	0.057	0.475
Distillate Oil	0.24	2	17S	142S	0.24S	2S	0.6	5	2.4	20	0.04	0.34	0.026	0.216
Residential Furnaces														
Distillate Oil	0.3	2.5	17S	142S	0.24S	2S	0.6	5	2.2	18	0.085	0.713	0.214	1.78

[a] Boilers can be approximately classified according to their gross (higher) heat rate as shown below:
Utility (power plant) boilers: $>106 \times 10^9$ J/hr ($>100 \times 10^6$ Btu/hr)
Industrial boilers: 10.6×10^9 to 106×10^9 J/hr (10×10^6 to 100×10^6 Btu/hr)
Commercial boilers: 0.5×10^9 to 10.6×10^9 J/hr (0.5×10^6 to 10×10^6 Btu/hr)
Residential furnaces: $<0.5 \times 10^9$ J/hr ($<0.5 \times 10^6$ Btu/hr)

[b] References 3-7 and 24-25. Particulate matter is defined in this section as that material collected by EPA Method 5 (front half catch).

[c] References 1-5. S indicates that the weight % of sulfur in the oil should be multiplied by the value given.

[d] References 3-5 and 8-10. Carbon monoxide emissions may increase by factors of 10 to 100 if the unit is improperly operated or not well maintained.

[e] Expressed as NO_2. References 1-5, 8-11, 17 and 26. Test results indicate that at least 95% by weight of NO_x is NO for all boiler types except residential furnaces, where about 75% is NO.

[f] References 18-21. Volatile organic compound emissions are generally negligible unless boiler is improperly operated or not well maintained, in which case emissions may increase by several orders of magnitude.

[g] Particulate emission factors for residual oil combustion are, on average, a function of fuel oil grade and sulfur content:
Grade 6 oil: $1.25(S) + 0.38$ kg/10^3 liter [$10(S) + 3$ lb/10^3 gal] where S is the weight % of sulfur in the oil. This relationship is based on 81 individual tests and has a correlation coefficient of 0.65.
Grade 5 oil: 1.25 kg/10^3 liter (10 lb/10^3 gal)
Grade 4 oil: 0.88 kg/10^3 liter (7 lb/10^3 gal)

[h] Reference 25.

[i] Use 5 kg/10^3 liters (42 lb/10^3 gal) for tangentially fired boilers, 12.6 kg/10^3 liters (105 lb/10^3gal) for vertical fired boilers, and 8.0 kg/10^3 liters (67 lb/10^3 gal) for all others, at full load and normal (>15%) excess air. Several combustion modifications can be employed for NO_x reduction: (1) limited excess air can reduce NO_x emissions 5-20%, (2) staged combustion 20-40%, (3) using low NO_x burners 20-50%, and (4) ammonia injection can reduce NO_x emissions 40-70% but may increase emissions of ammonia. Combinations of these modifications have been employed for further reductions in certain boilers. See Reference 23 for a discussion of these and other NO_x reducing techniques and their operational and environmental impacts.

[j] Nitrogen oxides emissions from residual oil combustion in industrial and commercial boilers are strongly related to fuel nitrogen content, estimated more accurately by the empirical relationship:
kg $NO_2/10^3$ liters $= 2.75 + 50(N)^2$ [lb $NO_2/10^3$gal $= 22 + 400(N)^2$] where N is the weight % of nitrogen in the oil. For residual oils having high (>0.5 weight %) nitrogen content, use 15 kg $NO_2/10^3$ liter (120 lb $NO_2/10^3$gal) as an emission factor.

TABLE 1.6-1. EMISSION FACTORS FOR WOOD AND BARK COMBUSTION IN BOILERS

Pollutant/Fuel Type/Control	kg/Mg	lb/ton	Emission Factor Rating
Particulate[a,b]			
Bark[c]			
Multiclone, with fly ash reinjection[d]	7	14	B
Multiclone, without fly ash reinjection[d]	4.5	9	B
Uncontrolled	24	47	B
Wood/bark mixture[e]			
Multiclone, with fly ash reinjection[f]	3	6	C
Multiclone, without fly ash reinjection[f]	2.7	5.3	C
Uncontrolled[g]	3.6	7.2	C
Wood[h]			
Uncontrolled	4.4	8.8	C
Sulfur Dioxide[j]	0.075 (0.01 - 0.2)	0.15 (0.02 - 0.4)	B
Nitrogen Oxides (as NO_2)[k]			
50,000 - 400,000 lb steam/hr	1.4	2.8	B
<50,000 lb steam/hr	0.34	0.68	B
Carbon Monoxide[m]	2 - 24	4 - 47	C
VOC			
Nonmethane[n]	0.7	1.4	D
Methane[p]	0.15	0.3	E

[a]References 2, 4, 9, 17-18. For boilers burning gas or oil as an auxiliary fuel, all particulates are assumed to result from only wood waste fuel.

[b]May include condensible hydrocarbons consisting of pitches and tars, mostly from back half catch of EPA Method 5. Tests reported in Reference 20 indicate that condensible hydrocarbons account for 4% of total particulate weight.

[c]Based on fuel moisture content of about 50%.

[d]After control equipment, assuming an average collection efficiency of 80%. Data from References 4, 7-8 indicate that 50% fly ash reinjection increases the dust load at the cyclone inlet 1.2 to 1.5 times, while 100% fly ash reinjection increases the load 1.5 to 2 times without reinjection.

[e]Based on fuel moisture content of 33%.

[f]Based on large dutch ovens and spreader stokers (averaging 23,430 kg steam/hr) with steam pressures from 20 - 75 kpa (140 - 530 psi).

[g]Based on small dutch ovens and spreader stokers (usually operating <9075 kg steam/hr), with pressures from 5 - 30 kpa (35 - 230 psi). Careful air adjustments and improved fuel separation and firing were used on some units, but the effects cannot be isolated.

[h]References 12-13, 19, 27. Wood waste includes cuttings, shavings, sawdust and chips, but not bark. Moisture content ranges from 3 - 50 weight %. Based on small units (<3000 kg steam/hr) in New York and North Carolina.

[j]Reference 23. Based on tests of fuel sulfur content and sulfur dioxide emissions at four mills burning bark. The lower limit of the range (in parentheses) should be used for wood, and higher values for bark. A heating value of 5000 kcal/kg (9000 BTU/lb) is assumed. The factors are based on the dry weight of fuel.

[k]References 7, 24-26. Several factors can influence emission rates, including combustion zone temperatures, excess air, boiler operating conditions, fuel moisture and fuel nitrogen content. Factors on a dry weight basis.

[m]Reference 30. Factors on a dry weight basis.

[n]References 20, 30. Nonmethane VOC reportedly consists of compounds with a high vapor pressure such as alpha pinene.

[p]Reference 30. Based on an approximation of methane/nonmethane ratio, which is very variable. Methane, expressed as a % of total volatile organic compounds, varied from 0 - 74 weight %.

Table 1.8-1. EMISSION FACTORS FOR UNCONTROLLED BAGASSE BOILERS
EMISSION FACTOR RATING: C

	Emission factors			
	lb/10^3 lb steam[a]	g/kg steam[a]	lb/ton bagasse[b]	kg/MT bagasse[b]
Particulate[c]	4	4	16	8
Sulfur oxides	d	d	d	d
Nitrogen oxides[e]	0.3	0.3	1.2	0.6

[a] Emission factors are expressed in terms of the amount of steam produced, as most mills do not monitor the amount of bagasse fired. These factors should be applied only to that fraction of steam resulting from bagasse combustion. If a significant amount (> 25% of total Btu input) of fuel oil is fired with the bagasse, the appropriate emission factors from Table 1.3-1 should be used to estimate the emission contributions from the fuel oil.

[b] Emissions are expressed in terms of wet bagasse, containing approximately 50 percent moisture, by weight. As a rule of thumb, about 2 pounds (2 kg) of steam are produced from 1 pound (1 kg) of wet bagasse.

[c] Multi-cyclones are reportedly 20 to 60 percent efficient on particulate from bagasse boilers. Wet scrubbers are capable of effecting 90 or more percent particulate control. Based on Reference 1.

[d] Sulfur oxide emissions from the firing of bagasse alone would be expected to be negligible as bagasse typically contains less than 0.1 percent sulfur, by weight. If fuel oil is fired with bagasse, the appropriate factors from Table 1.3-1 should be used to estimate sulfur oxide emissions.

[e] Based on Reference 1.

Reference for Section 1.8

1. Background Document: Bagasse Combustion in Sugar Mills. Prepared by Environmental Science and Engineering, Inc., Gainesville, Fla., for Environmental Protection Agency under Contract No. 68-02-1402, Task Order No. 13. Document No. EPA-450/3-77-007. Research Triangle Park, N.C. October 1976.

ATTACHMENT E

TSP AIR QUALITY ANALYSIS

1.0 INTRODUCTION

This ambient air quality analysis of total suspended particulates (TSP) for the U.S. Sugar Corporation Bryant mill was prepared in response to a request by the Florida Department of Regulation (FDER). FDER requested in a letter dated August 19, 1987, to Mr. A.R. Mayo of U.S. Sugar Corporation, that a revised analysis be conducted for the Bryant mill to demonstrate compliance with Prevention of Significant Deterioration (PSD) increments and ambient air quality standards (AAQS) for TSP. It was also requested that the TSP background air quality concentration be reanalyzed to determine a current background level, and that the analysis explicitly address the potential impacts from the nearby Osceola Farms and Sugar Cane Growers Cooperative mills. It was further requested that the analysis consider the expanded operating season requested by U.S. Sugar for Boiler No. 5 at Bryant. These requests resulted from FDER's review of the application to increase the permitted steam production rate of Boiler No. 5 at Bryant.

Subsequent to the August 19 correspondence, FDER received comments from the U.S. Environmental Protection Agency (USEPA) concerning the Boiler No. 5 permit application. These comments were forwarded to U.S. Sugar Corporation. USEPA commented that the applicant should address potential building downwash effects from the Boiler No. 5 stack if the stack height is less than Good Engineering Practice (GEP) height. In addition, it was commented that the analysis should also address the combined impacts from all particulate sources in the surrounding area.

In response to the FDER and USEPA comments, a complete, revised air quality analysis has been prepared. Presented in Section 2.0 is an analysis to determine the current background TSP air quality levels in the vicinity of the Bryant mill. A description of the methodology used in the air dispersion modeling analysis to address compliance with the AAQS and PSD increments is presented in Section 3.0. Results of the air impact analysis are presented and discussed in Section 4.0.

2.0 BACKGROUND TSP CONCENTRATIONS

The "background" TSP concentration derived for this analysis is considered to be representative of sources not explicitly considered in the modeling. In order to determine an appropriate background TSP concentration representative of current conditions in the vicinity of the Bryant mill, ambient TSP data from the Florida Sugar Cane League (FSCL) were analyzed. Data were obtained from the FSCL for the most recent crop year, i.e., 1986-1987 crop season. Data from the crop year only were analyzed since this represents the time period during which the Bryant mill and other sugar mills are operating. The crop season runs from approximately mid-October through mid-April. As a result, ambient TSP data from late October 1986 through April 1987 were analyzed.

The FSCL currently operates six (6) monitoring stations in the area of the Bryant mill that measure 24-hour average TSP concentrations. The locations of these stations are presented in Table 2-1. The monitors located within 15 km of the Bryant mill are shown in Figure 2-1. Because the nearest monitor to the mill is Station 3 (USDA Sugarcane Field Station in Canal Point), the TSP data from this station were used to develop a background concentration for the modeling analysis. A listing of the 24-hour average TSP concentrations measured at Station 3 during the crop season of late October 1986, through mid-April 1987, is presented in Table 2-2.

The USEPA modeling guideline (USEPA, 1986a) presents recommendations for determining background concentrations using ambient monitoring data collected in areas of isolated or multiple sources. For both areas, background concentrations can be estimated by excluding concentrations measured when the source or sources considered in the modeling analysis were potentially impacting the monitor. Although the Station 3 monitor is potentially impacted by several nearby sugar cane mills, the background concentration was estimated assuming that PM emissions from only the Bryant mill affected the measured concentrations. Thus, the background concentration estimated from this analysis includes impacts not only from

Table 2-1. Locations of TSP Monitoring Stations Operated by the Florida Sugar Cane League in the Vicinity of the U.S. Sugar Bryant Mill

Station Number	Address	UTM Coordinates (km) East	UTM Coordinates (km) North	Relative Location* Direction (degees)	Relative Location* Distance (km)
3	USDA Sugarcane Field Station, Canal Point	537.1	2971.9	346	2.9
4	Pahokee Water Treatment Plant, Pahokee	533.2	2966.7	242	5.2
5	Glades Mercantile Showroom, Belle Glade	533.1	2951.1	194	18.6
20	New Hope Sugar Corp.	549.2	2960.6	127	14.2
21	Sugar Cane Growers	534.6	2962.4	206	7.4

* Relative to the U.S. Sugar Bryant mill.

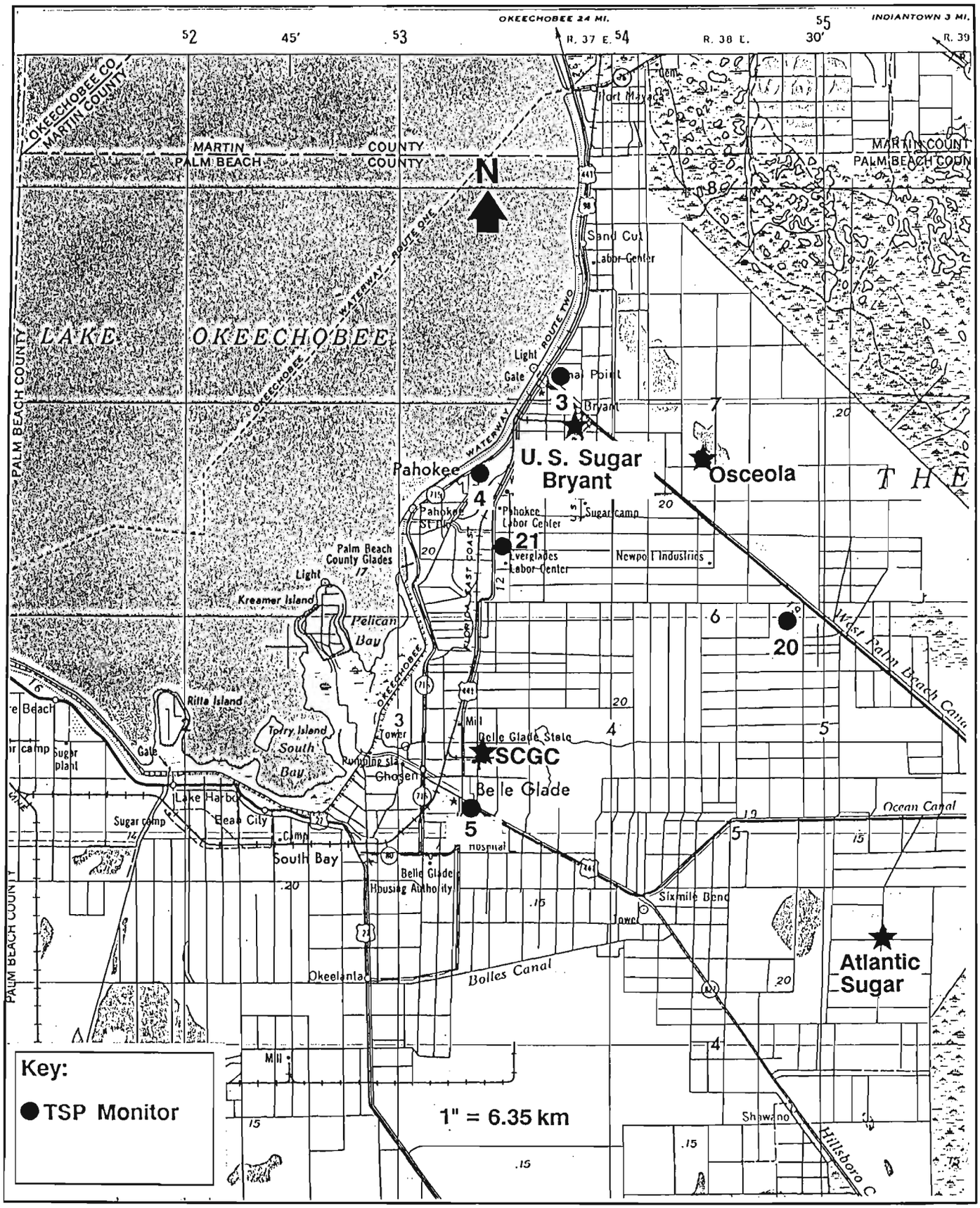


Figure 2-1. Locations of the TSP Monitoring Stations Operated by the Florida Sugar Cane League

KBN

Table 2-2. TSP Concentrations Measured at the FSCL Monitoring Station 3 During the 1986-1987 Crop Season

Date		24-Hour Average Concentration (ug/m^3)	Number of Hours that Hourly Average Wind Direction Within Potential Impact Sector*
1986			
October	29	25	2
November	4	22	0
	10	23	0
	16	32	0
	22	33	0
	28	45	0
December	4	41	0
	10	27	2
	16	46	0
	22	41	0
	28	30	+
1987			
January	3	22	0
	9	34	6
	15	59	17
	21	44	22
	27	28	0
February	2	45	16
	8	23	0
	14	57	0
	20	54	0
	26	68	0
March	4	31	0
	10	48	0
	16	53	3
	22	49	0
	28	46	14
April	3	31	6
	9	60	0
	15	67	10

Note: 24-hour average concentration is 40 ug/m^3 for the 18 daily periods during which the wind direction was not within the potential impact sector.

* Potential impact sector is from 121 to 211 degrees.
+ No data available for this period.

fugitive emissions not modeled, but also from other PM emission sources explicitly modeled in the analysis.

In estimating background concentrations for both the 24-hour and annual averaging periods, an approach that followed the USEPA recommendations was used:

1. The Bryant mill was considered to have an impact at Station 3 if wind direction for any hour within the 24-hour period was within a 90 degree sector that was centered on the direction that aligned the mill and the monitoring station. This sector, defined as the potential impact sector, was centered on 166 degrees and included directions from 121 clockwise to 211 degrees.

2. To estimate the wind direction at Station 3, wind data from the FSCL Station 5 located in Belle Glade were used because it is the nearest weather station to Station 3 that has readily available wind data.

3. A 24-hour period was included in the background analysis if during that period all hourly average wind directions were outside the potential impact sector. If one hourly average wind direction was within the potential impact sector, the 24-hour period was eliminated from further consideration.

4. Based on the results from step 3, the periods used in developing a background concentration are identified in Table 2-1. The average value of 40 ug/m^3, derived from the 24-hour concentrations for these 18 periods, was considered to represent both the 24-hour and annual average background concentrations.

The background concentration of 40 ug/m^3 used in this analysis is slightly higher than that used in previous analyses for the Bryant mill, but is the same as that recommended by the FDER in its recent comments concerning the proposed increased steam production rate for Boiler No. 5.

3.0 ATMOSPHERIC DISPERSION MODELING METHODOLOGY

3.1 EMISSIONS INVENTORY

3.1.1 U.S. Sugar Bryant Mill

Total suspended particulate matter PM(TSP) emission rates and stack parameters representative of future maximum operating conditions for the four boilers at Bryant, including the higher steam production rate proposed for Boiler No. 5, are presented in Table 3-1. Also shown are stack locations relative to the Boiler No. 2 stack location. Emissions and stack parameters for Boiler No. 5 are those presented in the application for the steam rate increase. They reflect a maximum 24-hour steam production rate of 280,804 lb/hr and maximum 24-hour heat input rate of 583.0 x 10^6 Btu/hr. Maximum emissions from Boiler No. 5 are based upon the allowable limit of 0.15 lb/10^6 Btu, and are 87.45 lb/hr (maximum 24-hour average) at the proposed higher operating rate.

Maximum future PM(TSP) emissions from Boiler Nos. 1, 2 and 3 at Bryant are based upon the maximum permitted steam production rates for these boilers. Each of these boilers are permitted for 180,000 lb/hr steam, as a 24-hour average. Maximum heat input to each boiler is 385 x 10^6 Btu/hr, and the allowable emissions are 0.3 lb/10^6 Btu. This results in PM(TSP) emissions from each boiler of 115.5 lb/hr. Stack parameters for these boilers were based upon recent stack tests on the boilers, adjusted appropriately to reflect the maximum permitted steam production rate.

Baseline PM(TSP) emission rates and stack parameters for Bryant, for purposes of determining PSD increment consumption, are also shown in Table 3-1. This information was obtained from the report entitled "Prevention of Significant Deterioration Analysis for a Proposed Bagasse Boiler, United States Sugar Corporation, Bryant Mill" (ESE, 1978). This report was submitted to FDER in support of the application for the original Boiler No. 5 construction permit issued in 1981.

Table 3-1. Particulate Emission Rates and Stack Parameters Used in Modeling Analysis for the U.S. Sugar Bryant Mill

Source	Location* X (m)	Location* Y (m)	PM(TSP) Emissions lb/hr (g/s)	Stack Height ft (m)	Stack Diameter ft (m)	Stack Temperature °F (°K)	Exit Velocity fpm (m/s)
Projected Future Emissions							
Boiler No. 1	5	18	115.5 (14.55)	65 (19.81)	5.39 (1.64)	156 (342)	7,166 (36.40)
Boiler No. 2	0	0	115.5 (14.55)	65 (19.81)	5.39 (1.64)	156 (342)	7,166 (36.40)
Boiler No. 3	-5	-18	115.5 (14.55)	65 (19.81)	5.39 (1.64)	156 (342)	7,166 (36.40)
Boiler No. 5	9	40	87.45 (11.00)	100 (30.50)	7.25 (2.21)	150 (339)	6,156 (31.40)
Baseline Emissions							
Boiler No. 1	5	18	654.0 (82.4)	65 (19.8)	5.5 (1.68)	430 (494)	3,937 (20.0)
Boiler No. 2	0	0	67.9 (8.56)	65 (19.8)	5.5 (1.68)	160 (344)	3,366 (17.1)
Boiler No. 3	-5	-18	27.6 (3.48)	65 (19.8)	5.5 (1.68)	160 (344)	3,366 (17.1)

* Relative to Boiler No. 2 stack location.

3.1.2 Osceola Farms and Sugar Cane Growers Cooperative

Particulate emissions and stack parameters representative of current maximum operation at the Osceola Farms mill were taken from a report entitled "OSCEOLA FARMS, Boiler No. 6 Steam Rate Increase, TSP Air Quality Impact Analysis", prepared by KBN in September 1986. This report was submitted to FDER in September 1986 in support of a request to increase the steam production capacity of Boiler No. 6 at Osceola. The emissions and stack parameters are shown in Table 3-2.

Based upon FDER's Technical Evaluation and Preliminary Determination issued for the original Osceola Farms No. 6 construction permit on September 25, 1981 (Permit No. AC50-43777), there was no PSD increment consumption due to the modification. PSD increments were not consumed due to the emission reduction from one source (i.e., shutdown of Boiler No. 1) and increases in stack heights and flow rates at the existing boilers. As a result, for this study, the Osceola Farms' sources were modeled only in the AAQS analysis.

For the Sugar Cane Growers Cooperative mill, both current and baseline emissions and stack parameters were obtained from FDER's Final Determination for Power Boiler No. 8 at Sugar Cane Growers Cooperative, dated October 15, 1981 (Permit No. AC50-42476). These data are also shown in Table 3-2 and were considered in the AAQS and PSD analyses.

3.2 MODELING METHODS AND ASSUMPTIONS

The maximum 24-hour and annual average TSP concentrations due to sources at the U.S. Sugar Bryant mill and other sources were predicted using the Industrial Source Complex Short-Term (ISCST) model. The ISCST model was selected because it is approved by the FDER for addressing impacts for elevated point sources, such as those at U.S. Sugar Bryant mill, in determining compliance with ambient standards. The ISCST model requires the following input parameters: source data, meteorological data, receptor data, and program controls. In order to reduce the computation time, the modeling analysis was performed in

Table 3-2. Stack Operating and Emission Data for Other PM Emission Sources Considered in the Modeling Analysis

Facility/UTM Coordinates East, North (km)	Stack Data (ft)		Operating Data			PM(TSP) Emission Rate (lb/hr)
	Height	Diameter	Temperature (^{o}F)	Flow Rate (acfm)	Velocity (ft/sec)	
Osceola Farms* 544.4, 2967.3						
BASELINE CASE						
Boiler 1	72	5.0	156	34,750	29.5	26.8
2	72	5.0	156	54,900	46.6	59.7
3	72	6.5	156	73,300	36.8	32.0
4	72	6.0	156	74,300	43.8	47.7
5	72	5.0	156	46,400	39.4	47.7
PROJECTED CASE						
Boiler 2	82	5.00	155	70,000	59.4	81.0
3	72	6.33	155	90,000	47.7	44.2
4	82	6.00	155	104,580	61.7	81.0
5	82	5.00	155	57,750	49.0	63.7
6	90	6.33	155	92,600	49.0	53.6
Sugar Cane Growers+ 534.9, 2953.3						
PROJECTED CASE						
Boiler 1, 2	80	4.60	160	37,300	37.4	108.0
3	80	5.25	160	66,500	51.2	45.2
4	110	9.25	160	148,000	36.7	86.5
5	80	4.60	160	49,800	49.9	72.2
6, 7	40	7.00	631	84,700	36.7	19.8
8	155	10.00	160	164,000	34.8	95.2

* Although the existing boilers have increased emissions from the PSD baseline case and Boiler 6 is a PSD-increment consuming source, previous air quality analyses have shown that no PSD increment has been consumed due to the reduction in emissions from the shutdown of Boiler 1 and increases in stack heights and flow rates at the existing boilers.

+ Boiler 8 is a PSD increment consuming source; in the PSD baseline case, Boiler 4 had a stack height and diameter of 85 and 5.35 ft, respectively, and flow rate and exit velocity of 49,600 acfm and 36.7 ft/sec. Data for other boilers are the same for the baseline and projected cases.

screening and refined phases which effectively identify the magnitudes, locations, and time periods of maximum predicted concentrations.

For the screening phase, the source data used in the modeling are presented in Table 3-1 for emission sources at the Bryant mill and in Table 3-2 for other sources. Several sources were combined because of similar locations or operating characteristics. Because sources within 10 km of the Bryant mill have the potential for significant interaction with the Bryant mill's sources, the emissions from Osceola Farms were modeled using the entire receptor grid in the screening phase (discussed later). The impacts of sources from the Sugar Cane Growers' facility were modeled only for the direction that aligned this source with the Bryant mill.

Concentrations were calculated using hourly meteorological data from 1970 to 1974 based on surface observations collected at the National Weather Service (NWS) in West Palm Beach and upper air data from the NWS station in Miami. These data were used because they are the most readily available and considered to be representative of meteorological conditions at the mill. This database has also been used in previous air permit applications for modifications that have occurred at the Bryant mill. Therefore, the impacts predicted in this analysis are based on the same database used to predict air quality impacts in previous regulatory reviews.

The crop season for Boiler No. 5 will be a maximum of 147 days, but the season can span the time period from October 15 to April 15. As a result, all days falling within this period of 183 days were modeled in each year with all sources at their maximum 24-hour emission rates. The 183-day average concentrations produced from this analysis were divided by a factor of two (2) to produce an annual average concentration.

Two main receptor grids were considered in the analysis. The first receptor grid consisted of 252 receptors located in a radial grid

centered on Boiler No. 2. The receptors were located along 36 radials at distances of 200, 400, 600, 800, 1000, 1200, and 1400 meters (m) along each radial. For this grid, sources from the Bryant mill and Osceola Farms were modeled.

The second grid consisted of 7 receptors located at the same distances as in the first grid but along a single direction of 10 degrees. This direction aligns the Sugar Cane Growers' sources with the Bryant mill. For this grid, sources from the Bryant mill, Osceola Farms, and Sugar Cane Growers' facility were modeled.

In both receptor grids, concentrations were predicted on plant property although these areas are not considered to be ambient air. Property boundaries of the Bryant mill are shown in Figure 3-1. For each receptor, the ISCST model summed the hourly concentrations to produce 24-hour and annual average concentrations. For comparison to the 24-hour average AAQS and PSD increments, the highest, second-highest model predicted concentrations were used.

The model control parameters were based on recommendations by the FDER and USEPA and referred to as the regulatory default options. Because there is minimal residential, commercial and industrial development within 3 km of the mill, the rural option was used in selecting the plume dispersion rates, wind speed profile, and mixing heights.

In the refined phase, concentrations were predicted in a dense radial grid for the meteorological periods that produced the highest, second-highest 24-hour concentration in the screening phase. Source data used in the modeling for this phase are presented in Tables 3-1 and 3-2, without combining sources. Receptors were located at 100 m intervals along radials, spaced at two degree increments, centered on the receptor at which the highest, second-highest 24-hour concentrations were predicted.

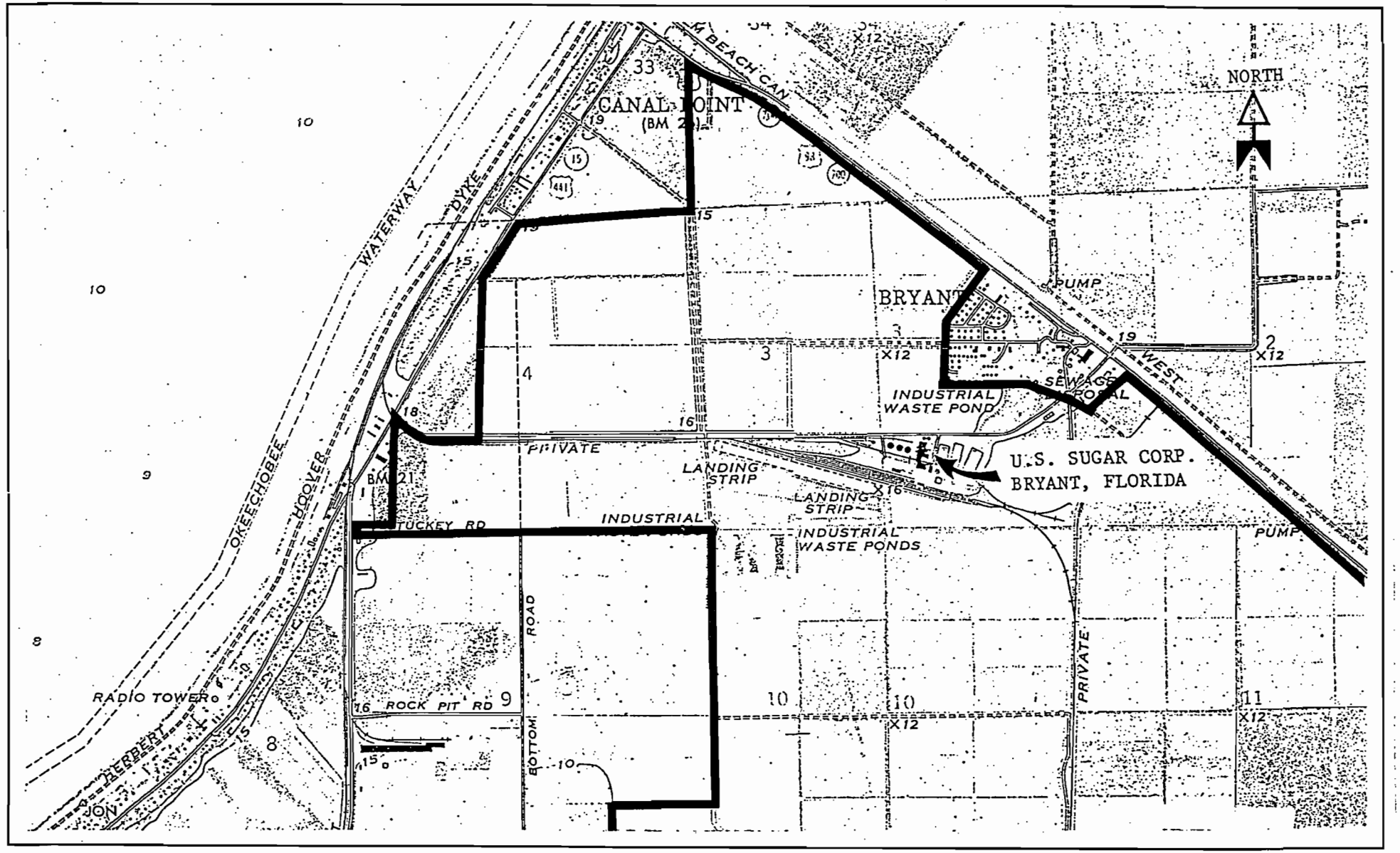


Figure 3-1. Property Boundaries of U.S. Sugar Bryant Mill

Scale: 1" = 0.62 km

Refinements were not performed for the annual averaging period because concentrations for this averaging period are not expected to vary significantly over the receptor grid used in the screening phase.

3.3 ASSESSMENT OF POTENTIAL BUILDING DOWNWASH EFFECTS FOR BOILER NO. 5

The USEPA has requested that the potential for building downwash for Boiler No. 5 be analyzed if the stack height of Boiler No. 5 is less than Good Engineering Practice (GEP). For sources constructed after January 12, 1979, the USEPA defines a GEP stack height as the greater of:

1. 65 m, from ground elevation at the stack base;
2. H + 1.5 L, where H is the height of nearby buildings and L is the lesser dimension of the height or projected width of nearby buildings; or
3. height demonstrated by a fluid model or field study.

The major influencing structure at the Bryant mill is the boiler building. This building has a height and projected width of 60 ft and 260 ft, respectively. Because the height is the lesser dimension, the GEP stack height for this building is 150 ft, which is 2.5 times the building height. The stack height of Boiler No. 5 is 100 ft, which is less than the GEP height. As a result, there is a potential for building dowwash to occur. The potential for building downwash of Boiler No. 5 emissions were evaluated with the ISCST model in both the screening and refined phases of the analysis, by using the height and projected width of the boiler building.

4.0 RESULTS OF TSP AIR QUALITY IMPACT ANALYSIS

The maximum TSP concentrations due to all sources in the vicinity of the Bryant mill for the screening phase of the analysis, including the background concentration, are presented in Table 4-1. As shown in Table 4-1, the maximum TSP concentrations are predicted to be below the 24-hour and annual AAQS of 150 and 60 ug/m^3, respectively, as well as below the 24-hour and annual PSD Class II increments of 37 and 19 ug/m^3, respectively.

The results of the refined phase of the analysis are presented in Table 4-2. The maximum predicted 24-hour average concentration due to all modeled sources, added to the background concentration of 40 ug/m^3, is 149.7 ug/m^3, which is less than the Florida AAQS of 150 ug/m^3. The modeled sources and background concentrations accounted for 73 and 27 percent, respectively, of the maximum predicted concentration. It should be noted that the maximum concentration is predicted on the Bryant mill's property (see Figure 4-1).

The maximum predicted 24-hour average TSP PSD increment consumption due to all PSD sources is 34.7 ug/m^3, which is less than the PSD Class II increment of 37 ug/m^3. This maximum concentration is predicted to occur well within the Bryant mill's property boundaries and is mainly due to impacts from Boiler No. 5 (see Figure 4-2).

Based on these results, the maximum predicted concentrations due to all existing sources at the Bryant mill, including Boiler No. 5 at the proposed higher steam rate, and other PM emission sources in the area, are expected to comply with the Florida AAQS and PSD Class II increments.

Table 4-1. Maximum PM(TSP) Concentrations Predicted in the Screening Phase of the AAQS and PSD Class II Analyses

Averaging Period/ Year	Maximum Concentration (ug/m^3)	Location*	
		Direction (degree)	Distance (km)
AAQS Analysis+			
24-Hour			
1970	126.6	270	1.0
1971	140.6	260	1.0
1972	130.5	250	1.0
1973	132.4	220	1.0
1974	132.8	270	1.2
Annual			
1970	44.2	260	1.0
1971	46.5	260	1.0
1972	45.1	270	1.0
1973	44.7	320	1.0
1974	46.1	270	1.0
PSD Class II Analysis			
24-Hour			
1970	20.5	290	0.2
1971	33.6	270	0.2
1972	25.4	240	0.2
1973	22.6	230	0.2
1974	28.6	250	0.2
Annual			
1970	0.53	280	0.2
1971	1.00	270	0.2
1972	0.55	250	0.2
1973	0.32	260	0.2
1974	0.56	260	0.2

Note : 24-hour and annual Florida AAQS are 150 and 60 ug/m^3, respectively. 24-hour and annual PSD Class II increments are 37 and 19 ug/m^3, respectively.

* Relative to Boiler No. 2.
+ Includes background concentration of 40 ug/m^3.

Table 4-2. Maximum 24-Hour Average TSP Concentrations Predicted in the Refined Phase of the AAQS and PSD Class II Analyses

Modeling Phase	Maximum Concentration (ug/m^3)	Location*		Period	
		Direction (Degrees)	Distance (km)	Year	Julian Day
AAQS Analysis					
Screening	140.6+	260	1.0	1971	319
Refined	149.7+	258	1.0	1971	319
PSD Analysis					
Screening	33.6	270	0.2	1971	320
Refined	34.7	268	0.2	1971	320

Note: 24-hour Florida AAQS is 150 ug/m^3 and 24-hour PSD Class II increment is 37 ug/m^3, both not to be exceeded more than once per year.

* Relative to Boiler No. 2.
+ Includes a background concentration of 40 ug/m^3.

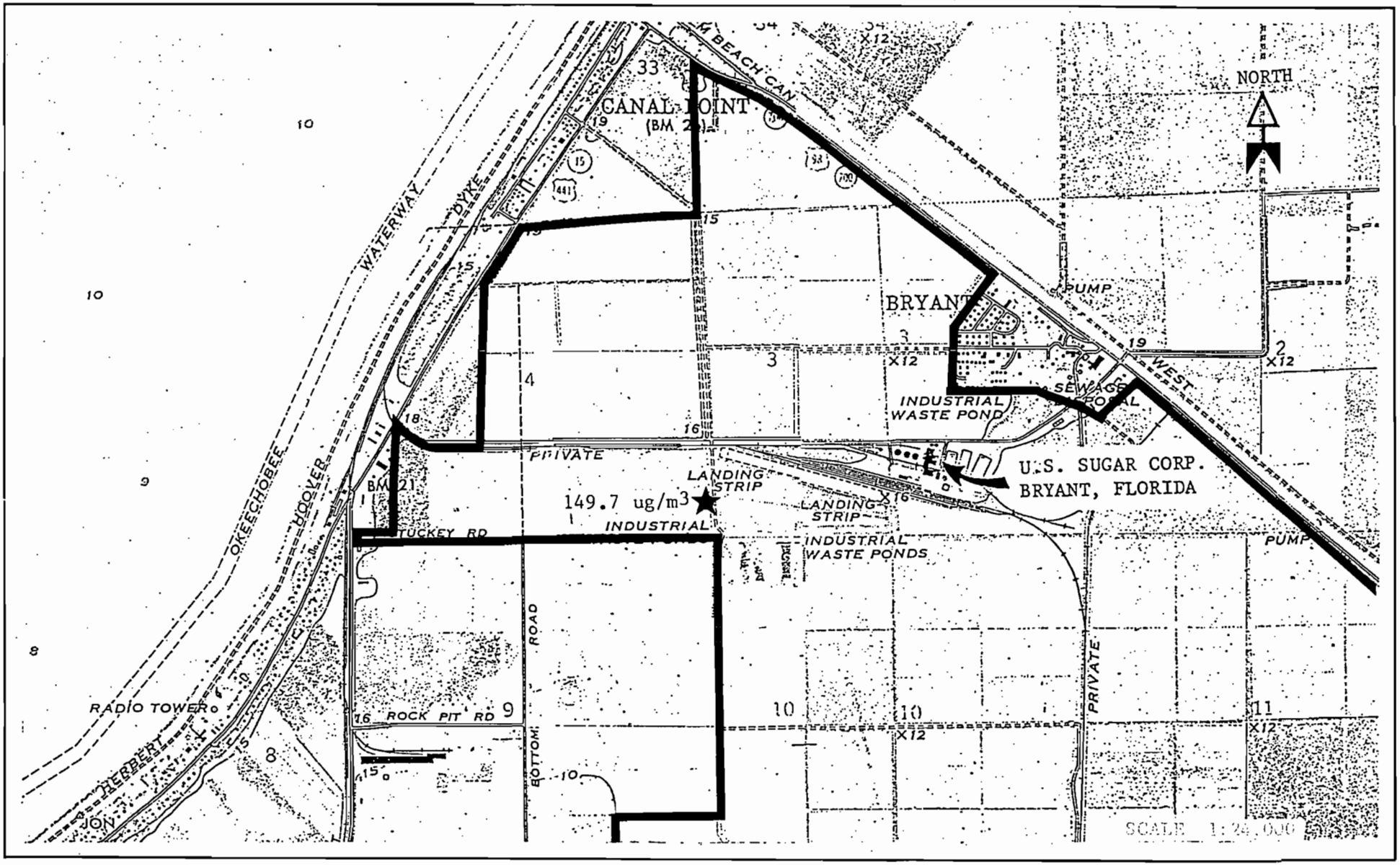


Figure 4-1. Location of the Maximum Predicted 24-Hour Average TSP Concentration for Comparison to the Florida AAQS

Scale: 1" = 0.62 km

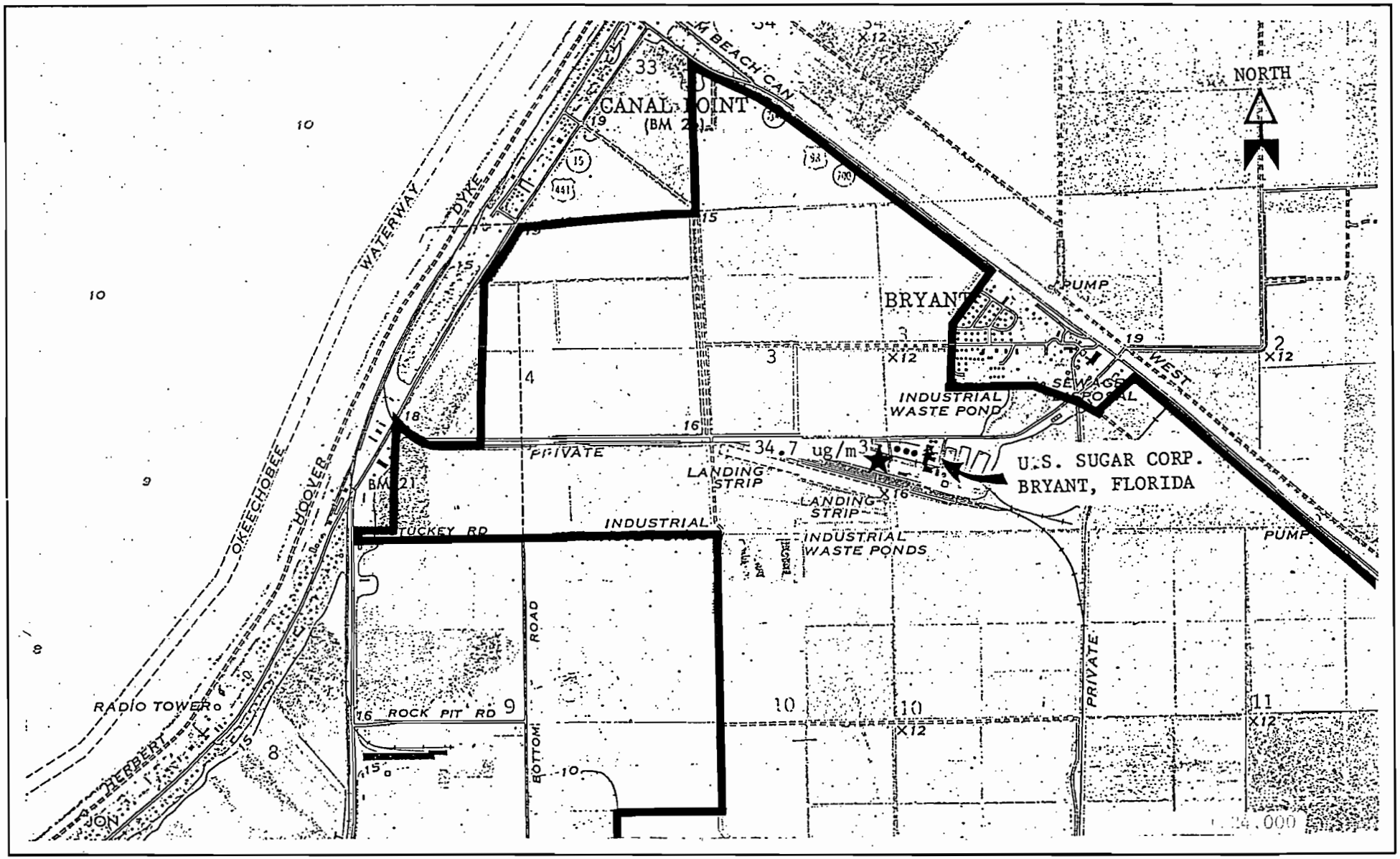


Figure 4-2. Location of the Maximum Predicted 24-Hour Average TSP Concentration for Comparison to the PSD Class II Increment

Scale: 1" = 0.62 km

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ATTACHMENT F

ANALYSIS OF PM10 EMISSIONS

BRYANT BOILER NO. 5

1.0 PM10 EMISSION ESTIMATES

PM10 is defined as that portion of total suspended particulate matter PM(TSP) which has an aerodynamic particle size diameter of 10 um or less. Very little information is available to estimate PM10 emissions from bagasse-fired boilers in the sugar cane processing industry. The only known particle sizing test on a bagasse-fired boiler was performed on Bryant Boiler No. 2. The tests were performed by Monsanto Research Corporation in 1980 under contract to the USEPA. The published test report (excerpts attached) showed two valid particle size tests using an Andersen impactor. The mass fraction of measured PM(TSP) that was of the PM10 size category was reported as 94.55% and 91.43% for the two tests, or an average of 93.0%.

USEPA Publication AP-42 has recently been revised (October 1986) to include PM10 emission factors for various industrial processes. Appendix C.1 of the revised AP-42 presents limited information on PM10 emissions from bagasse-fired boilers. PM10 emissions are stated to represent 95.2% to 99.0% of PM(TSP) emissions, with an average of 97.1%. The PM10 size data were based upon the testing performed by Monsanto Research for USEPA in 1980. However, the AP-42 data show a higher fraction of PM10 than were reported in the Monsanto report. Mr. Archie McLean of USEPA's Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina (919/541-5576) was contacted to discuss this discrepancy. Mr. McLean indicated that the AP-42 PM10 size distribution data was incorrect and that the data from the Monsanto report should be used and are considered correct. Based upon this discussion, the 93.0% figure was considered appropriate and PM10 emission calculations are therefore based upon this factor.

The current and proposed future PM10 emission rates for Boiler No. 5, based upon the PM(TSP) emission rates presented in the permit application and the 93.0% factor, are shown below. The net increase in PM10 emissions is also shown.

	PM(TSP)			PM10		
	1-hr (lb/hr)	24-hr (lb/hr)	Annual (TPY)	1-hr (lb/hr)	24-hr (lb/hr)	Annual (TPY)
Current maximum emissions	78.41	78.41	138.31	72.92	72.92	128.63
Proposed maximum emissions	100.65	87.45	154.26	93.60	81.33	143.46
Net increase in emissions	22.24	9.04	15.95	20.68	8.41	14.83

As shown above, the proposed increase in the maximum steam rate for Boiler No. 5 results in an increase of 14.83 TPY in PM10 emissions. This increase is below the USEPA significant emission rate of 15 TPY for PM10 which triggers PSD review. As result, the proposed increase does not trigger PSD review based upon PM10 emissions.

2.0 PM10 AIR QUALITY IMPACT ANALYSIS

2.1 REQUIREMENTS

In July of 1987, USEPA promulgated an ambient air quality standard (AAQS) for PM10. The AAQS is 150 ug/m^3, 24-hour average, and 50 ug/m^3, annual average. The 24-hour AAQS is violated when a PM10 concentration of greater than 150 ug/m^3 is expected to occur on more than one day per year. Since the PM10 AAQS is a federal standard, it is immediately applicable to all areas of the country. As a result, an air quality impact analysis of PM10 emissions from the Bryant mill and Boiler No. 5 was undertaken to demonstrate compliance with the PM10 AAQS.

2.2 METHODOLOGY

2.2.1 Modeling Methodology

As discussed in Section 1.0, PM10 emissions from bagasse-fired boilers in the sugar industry have been found to represent a specific fraction (93.0%) of PM(TSP) emissions. All sources considered explicitly in the PM(TSP) modeling analysis presented in Attachment E are bagasse-fired boilers. As a result, the PM10 emissions from each of these boilers is estimated at 93.0% of the PM(TSP) emissions (i.e., a direct ratio of the modeled emissions). The results of the PM(TSP) modeling, exclusive of the background PM(TSP) concentration, can therefore be ratioed directly to obtain PM10 impacts.

This approach was used to estimate maximum PM10 impacts due to modeled sources. These impacts were then added to an appropriate PM10 background concentration to determine total PM10 air quality levels.

2.2.2 Background PM10 Concentration

As described in Attachment E, Section 2.0, the FSCL operates five PM(TSP) ambient monitoring stations located within 20 km of the Bryant mill. FSCL also operates a PM10 monitor at one of these stations (Station 5, Belle Glade). The PM10 and PM(TSP) data from this site for the past crop season were compared in order to develop an average PM10/PM(TSP) ratio. This analysis is presented in Table 2-1. The average PM10/PM(TSP) ratio is shown to be 0.50.

The ratio developed for the Belle Glade monitoring station (Station 5) is considered to be representative of the PM10/PM(TSP) ratio expected in the vicinity of the Bryant mill. The Bryant mill is located only about 20 km away and is affected by similar anthropogenic sources as the Belle Glade monitoring site.

Given these considerations, the 0.50 PM10/PM(TSP) ratio can be applied directly to the background PM(TSP) concentration of 40 ug/m^3, developed in Attachment E, to yield a PM10 background concentration for the Bryant mill. The resulting PM10 background concentration is 20 ug/m^3, for both the annual average and 24-hour averaging times.

2.2.3 PM10 Impact Analysis Results

As presented in Attachment E, the maximum 24-hour and annual average PM(TSP) impacts due to all modeled sources were 109.7 ug/m^3 and 6.5 ug/m^3, respectively. Based on 93.0% of the PM(TSP) emissions being PM10, the maximum predicted PM10 impacts due to modeled sources is 102.0 ug/m^3, 24-hour average, and 6.0 ug/m^3, annual average. Adding the estimated PM10 background concentration of 20 ug/m^3 to these modeled point source impacts results in total PM10 air quality levels of 122.0 ug/m^3, 24-hour average, and 26.0 ug/m^3, annual average. These maximum predicted levels are well

Table 2-1. TSP and PM10 Concentrations Measured at FSCL Station 5 During the 1986-1987 Crop Season

Date		24-Hour Average Concentration (ug/m^3) PM(TSP)	PM10	Ratio of PM10/PM(TSP) Concentrations
1986				
October	29	32	17	0.53
November	4	44	25	0.57
	10	39	20	0.51
	16	*	20	--
	22	60	28	0.47
	28	55	24	0.44
December	4	59	31	0.53
	10	57	26	0.46
	16	73	31	0.42
	22	74	35	0.47
	28	41	24	0.59
1987				
January	3	*	15	--
	9	68	31	0.46
	15	71	31	0.44
	21	50	23	0.46
	27	55	27	0.49
February	2	74	41	0.55
	8	*	14	--
	14	93	57	0.61
	20	75	35	0.47
	26	72	36	0.50
March	4	57	26	0.46
	10	71	41	0.58
	16	80	38	0.48
	22	75	*	--
	28	59	*	--
April	3	52	*	--
	9	68	7	0.10+
	15	60	27	0.45
AVERAGE		62	28	0.50

* No data available for this period.
+ This value was not considered in developing the average ratio of 0.50 because it differed significantly from all other observed ratios.

below the AAQS of 150 ug/m^3, 24-hour average, and 50 ug/m^3, annual average. As a result, the proposed increase in PM10 emissions due to the Bryant Boiler No. 5 steam rate increase is expected to comply with the new PM10 AAQS.

NONFOSSIL FUELED BOILERS

Emission Test Report
U.S. Sugar Company
Bryant, Florida

Project No.: 80-WFB-6

Prepared for

Environmental Protection Agency
Office of Air Quality Planning and Standards
Emission Measurement Branch
Research Triangle Park
North Carolina 27711

by

James A. Peters and Charles F. Duncan

Contract 68-02-2818, Work Assignment No. 25

May 1980

MONSANTO RESEARCH CORPORATION
DAYTON LABORATORY
1515 Nicholas Road
Dayton, Ohio 45407

SECTION 1

INTRODUCTION

The Bryant Mill of U.S. Sugar Corporation in Bryant, Florida was emission tested by Monsanto Research Corporation (MRC) for the U.S. Environmental Protection Agency (EPA) under Contract No. 68-02-2818, Work Assignment No. 25. The objective of the sampling program was to obtain emissions data from well-controlled sources within the nonfossil fuel boilers category that could possibly be used for the development of new source performance standards.

The field test work was monitored by Dan Bivins, Field Testing Section, Emission Measurement Branch, EPA. The sampling performed by MRC was directed by Charles F. Duncan as team leader. Gaseous and particulate emissions were determined at the outlet of the pollution control device serving Boiler #2. A composite sample of boiler feed was collected with each run so that a material balance could be attempted.

The sampling at the Bryant Mill was conducted by MRC during December 16-18, 1979. The collection methods employed were EPA Methods 1, 2, 3, 4, 5, 6, 7, and 9, with particulate sizing by Andersen cascade impactor.

Quality assurance/quality control in the sampling area covered such activities as instrument calibration, using standard or approved sampling methods, chain-of-custody procedures, and protocols for the recording and calculation of data. QA/QC in the analysis area involved using only validated analysis methods, periodic operator QC checking and training, sample QC by the use of splits, reference standards, and spikes, and interlaboratory audits.

SECTION 2

SUMMARY OF RESULTS

Pollutants which were measured for this emission test were particulate matter, particle size, CO_2, CO, SO_2, NO_x, and plume opacity. Table 1 presents the sampling and analysis schedule in condensed form.

TABLE 1. BRYANT PLANT SAMPLING AND ANALYSIS SCHEDULE

Sampling site	Total number of samples	Sample type	Sampling method	Minimum sampling time	Initial analysis	
					Type	Method
Scrubber outlet	3	Particulate matter	EPA 5	60 min		
Scrubber outlet	3	Particle-size distribution	Andersen			
Scrubber outlet	3	Integrated gas analysis	EPA 3		CO_2, O_2, CO	EPA 3
Scrubber outlet	3	SO_2	EPA 6, option 2	Same as Method 5		
Scrubber outlet	3 runs, 4 samples each	NO_x	EPA 7	15 min intervals		
Scrubber outlet	3	Opacity	EPA 9			
Scrubber outlet	3 samples, 2 fuel analyses each	ASTM			Ultimate analysis and heating value	ASTM

The Bryant Mill operates three waste-fired boilers fed with bagasse. The center boiler, Boiler #2, was tested. Boiler #2 utilizes dual scrubbers in parallel for pollution abatement. The outlet stack is located directly above the scrubbers.

Three test runs were performed, each consisting of 96 minutes of sampling time. Forty-eight traverse points were used, six points in each of the eight sampling ports. The first run was completed December 17. During the run, the boiler operated normally, in the range of 145,000 to 160,000 lb/hr of steam, until more than halfway through the test, when the bagasse feed was interrupted. The steam loading dropped to about 60,000 lb/hr and oil began to be burned. The test was interrupted several minutes after the drop in steam loading and was begun again after the bagasse feed rate and the boiler operation returned to normal almost 2 hours later. During the last several minutes of the test before the interruption, about 75 gal of oil was burned. Bagasse alone was burned the remainder of the run.

The remaining two runs of the test were completed on December 18. Through both runs the boiler operated normally and bagasse alone was burned. The steam loading ranged from 125,000 to 165,000 lb/hr, with an average of 151,000 lb/hr, in Run 2 and from 130,000 to 170,000 lb/hr, with an average of 144,000 lb/hr, in the third run. Both runs were within the normal operating range. During the third run, soot blowing was performed.

Tables 2 and 3 contain the summarized particulate emission data and stack gas parameters. Moisture in the stack gas was unusually high -- 32 percent H_2O. Integrated gas analysis results for each run are given in Table 4.

Table 5 contains a summary of the particle sizing results; each Andersen cascade impactor run was made after completing a Method 5 run. The #1 impactor test was discarded because the filter media was soaked with water. Due to the boiler #2 plume merging with the other boilers' plumes, opacity readings were not able to be made.

Samples for SO_2 emissions were taken concurrently with particulate emission runs by using the back half of the Method 5 train. Due to the very low sulfur content of the bagasse feed, emissions of SO_2 were below the detection limit (3.4 mg SO_2/m^3) of Method 6, and no data are presented.

Samples for NO_x emissions were collected just after each particulate emission test and are summarized in Table 6.

Composite fuel samples of bagasse were taken with each run from the conveyor feeding the boiler, and ultimate analysis and fuel values were determined. A fuel oil sample from run #1 was also collected and analyzed for fuel value. Table 7 presents the fuel analysis results.

A summary of boiler operating conditions during testing is given in Table 8. Average steam temperatures and pressures were determined by averaging 15-min readings in order to calculate steam enthalpy.

TABLE 2. PARTICULATE EMISSION DATA AND STACK GAS PARAMETERS, U.S. SUGAR-BRYANT MILL, DECEMBER 17-18, 1979 (ENGLISH UNITS)

Run number	Date	Time, min	Stack temperature, °F	Flow, dscfm	H_2O, %	Isokinetic, %	Emissions			
							Actual			Corrected to 12% CO_2
							gr/dscf	lb/hr	lb/mm Btu	gr/dscf
1	12/17/79	96	161	58,515	31.3	105.7	0.1298	65.1	0.3505	0.1442
2	12/18/79	96	164	58,720	33.1	105.6	0.1001	50.4	0.2547	0.1082
3	12/18/79	96	162	58,825	31.7	101.6	0.1135[a]	57.2	0.3014	0.1205[a]
Average		96	162	58,687	32.0		0.1145	57.6	0.3029	0.1243

[a]Run #3 included a soot blow.

TABLE 3. PARTICULATE EMISSION DATA AND STACK GAS PARAMETERS, U.S. SUGAR-BRYANT MILL, DECEMBER 17-18, 1979 (METRIC UNITS)

Run number	Date	Time, min	Stack temperature, °C	Flow, dncmpm	H_2O, %	Isokinetic, %	Emissions			
							Actual			Corrected to 12% CO_2
							gr/dncm	kg/hr	kg/GJ	gr/dncm
1	12/17/79	96	72	1,657	31.3	105.7	0.2971	29.5	0.1506	0.3301
2	12/18/79	96	73	1,663	33.1	105.6	0.2292	22.9	0.1097	0.2478
3	12/18/79	96	72	1,666	31.7	101.6	0.2599[a]	26.0	0.1307	0.2760[a]
Average		96	72	1,662	32.0		0.2621	26.1	0.1303	0.2846

[a]Run #3 included a soot blow.

TABLE 4. SUMMARY OF INTEGRATED GAS ANALYSES, U.S. SUGAR-BRYANT MILL, DECEMBER 17-18, 1979

Run number	Date	CO_2, %	CO, %	O_2, %	N_2, %	MW lb/lb mole
1	12/17/79	10.8	0.0	9.2	80.0	30.1
2	12/18/79	11.1	0.0	9.0	79.9	30.1
3	12/18/79	11.3	0.0	9.4	79.3	30.2
Average		11.1	0.0	9.2	79.7	30.1

TABLE 5. SUMMARY OF ANDERSEN PARTICLE SIZING RESULTS, U.S. SUGAR-BRYANT MILL, DECEMBER 17-18, 1979

Run No. 1

Discarded

Run No. 2

Flow rate = 0.927 acfm
Isokinetic rate = 107.1%

Stage	Size range	Percent in size range	Cumulative % <size range
Preimpactor	>10.50	3.99	94.55
0	>10.50	1.46	94.55
1	6.50 - 10.50	3.06	91.52
2	4.30 - 6.50	7.98	83.54
3	2.95 - 4.30	11.30	72.24
4	1.88 - 2.95	12.40	59.94
5	0.94 - 1.88	12.90	46.94
6	0.58 - 0.94	19.15	27.79
7	0.39 - 0.58	16.49	11.30
Filter	0.0 - 0.39	11.30	0

Run No. 3

Flow rate = 0.908 acfm
Isokinetic rate = 105.5%

Stage	Size range	Percent in size range	Cumulative % <size range
Preimpactor	>10.60	6.56	91.43
0	>10.60	2.01	91.43
1	6.60 - 10.60	4.28	87.14
2	4.40 - 6.60	7.47	79.67
3	3.00 - 4.40	8.66	71.01
4	1.90 - 3.00	8.66	62.35
5	0.96 - 1.90	10.48	51.87
6	0.59 - 0.96	20.60	31.27
7	0.40 - 0.59	16.68	14.59
Filter	0.0 - 0.40	14.59	0

Particle Sizing Summary

An eight stage Anderson Mark III impactor was used for particle sizing tests. Because of the presence of entrained water or highly saturated gases, it was decided to utilize an impactor preseperator to protect the impactor substrates and jet stages from the effects of water. This was thought superior to heating the impactor because heating may change the stage collection efficiencies.

A particle sizing test run was made immediately following each method 5 test run. The tests were conducted at the point of average velocity shown in the method 5 run. The impactor was used with a method 5 sampling train modified for its use by the use of a flexible line between the probe and impingers. The impactor was placed in the stack at the nozzle end of the probe. Isokinetic sampling was maintained throughout the tests.

The run 1 impactor test has been discarded because the filter media was soaked with water. Exactly how this happened was unknown. Runs 2 and 3 appear to be very satisfactory however. The preweighed filters following jets stages 0 through seven were collected and placed in petri dishes. The preweighed back up filter following plate eight (not a jet stage) was also placed in a petri dish. The acetone wash of the preseperator, inlet cone, and top surface of plate zero was placed in a clean sample bottle marked "preimpactor". Although the individual weights of the preimpactor wash and the first filter (from jet stage 0) have been recorded in Table 1, these have been added together for sizing using the 0 stage cut point. Cut sizes (dp_{50}) have been determined from the enclosed data furnished by Anderson Samplers, Inc.

Field data sheets have been enclosed. Orsat information was obtained from integrated bag and Burrell analyzer. Moisture values were taken from the accompanying EPA - 5 test run.

Table 1. Anderson Mark III Sizing Summary

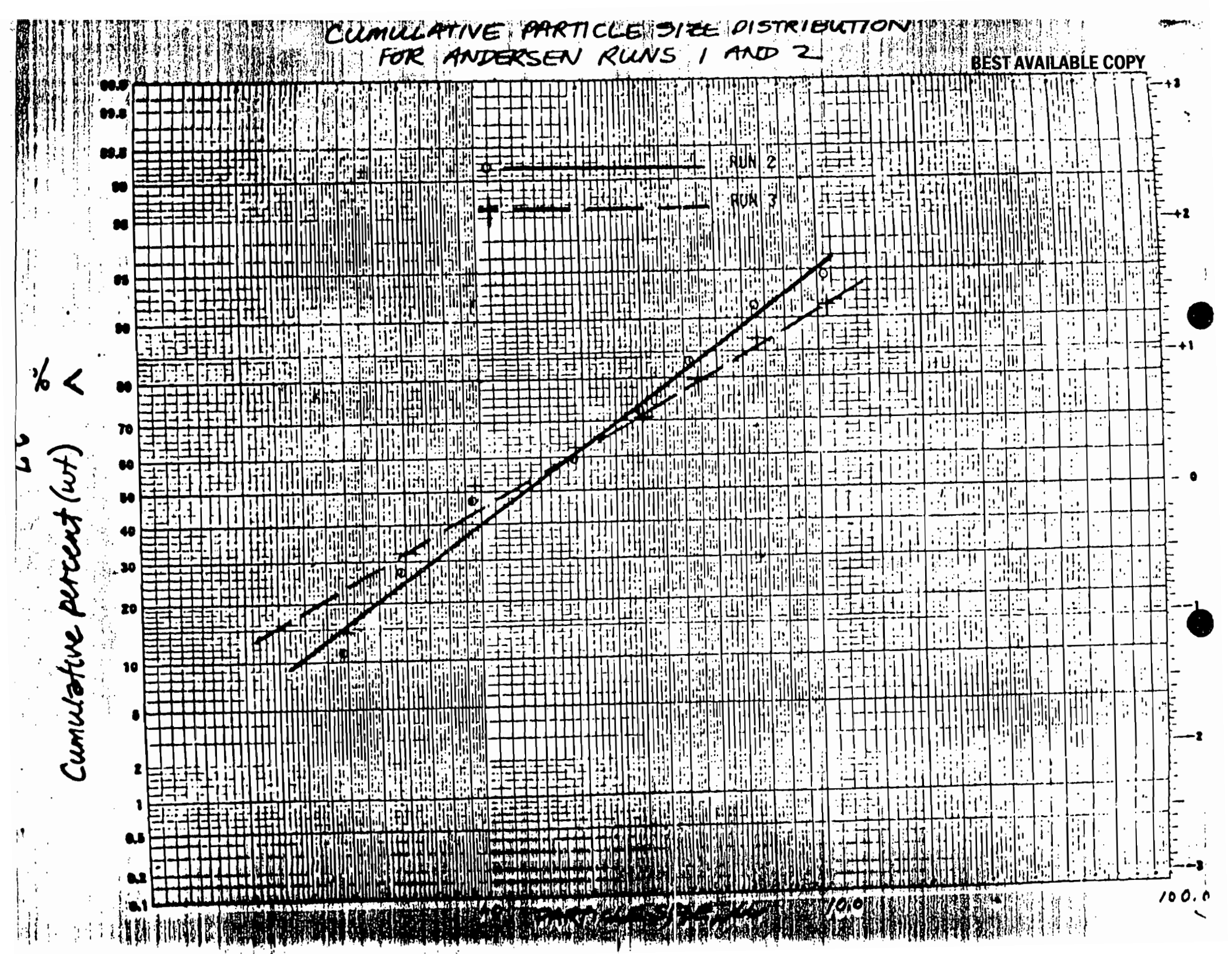
Run 2
Flow Rate = 0.927 ACFM
Isokinetic Rage = 107.1%

Stage	Size Range	Effective Cut Diameter	Final Weight mg	Initial Weight mg	Gain mg	% in Size Range	Cummulative % <Size Range
Preimpactor	>10.50	10.5	110.3755	110.3785	3.0	3.99	94.55
0	>10.50	10.5	131.8	130.7	1.1	1.46	94.55
1	6.50 - 10.50	6.5	122.5	120.3	2.3	3.06	91.52
2	4.30 - 6.50	4.3	137.4	131.4	6.0	7.98	83.54
3	2.95 - 4.30	2.95	128.8	120.3	8.5	11.30	72.24
4	1.88 - 2.95	1.88	140.4	131.1	9.3	12.40	59.84
5	0.94 - 1.88	0.94	130.7	121.0	9.7	12.90	46.94
6	0.58 - 0.94	0.58	145.2	130.8	14.4	19.15	27.79
7	0.39 - 0.58	0.39	132.4	120.0	12.4	16.49	11.30
Filter	0.0 - 0.39	-	252.0	243.5	8.5	11.30	0
					75.2		

Run 3
Flow Rate = 0.908 ACFM
Isokinetic Rate = 105.5%

Stage	Size Range	Effective Cut Diameter	Final Weight mg	Initial Weight mg	Gain mg	% in Size Range	Cummulative % <Size Range
Preimpactor	>10.60	10.6	103.8754	103.8682	7.2	6.56	91.43
0	>10.60	10.6	134.5	132.3	2.2	2.01	91.43
1	6.60 - 10.60	6.6	125.3	120.6	4.7	4.28	87.14
2	4.40 - 6.60	4.4	138.5	130.3	8.2	7.47	79.67
3	3.00 - 4.40	3.0	130.5	121.0	9.5	8.66	71.01
4	1.90 - 3.00	1.9	139.8	130.3	9.5	8.66	62.35
5	0.96 - 1.90	.96	131.9	120.4	11.5	10.48	51.87
6	0.59 - 0.96	.59	152.6	130.0	22.6	20.60	31.27
7	0.40 - 0.59	.40	138.7	120.4	18.3	16.68	14.59
Filter	0.0 - 0.40	-	260.2	244.2	16.0	14.59	0
					109.7		

CUMULATIVE PARTICLE SIZE DISTRIBUTION FOR ANDERSEN RUNS 1 AND 2



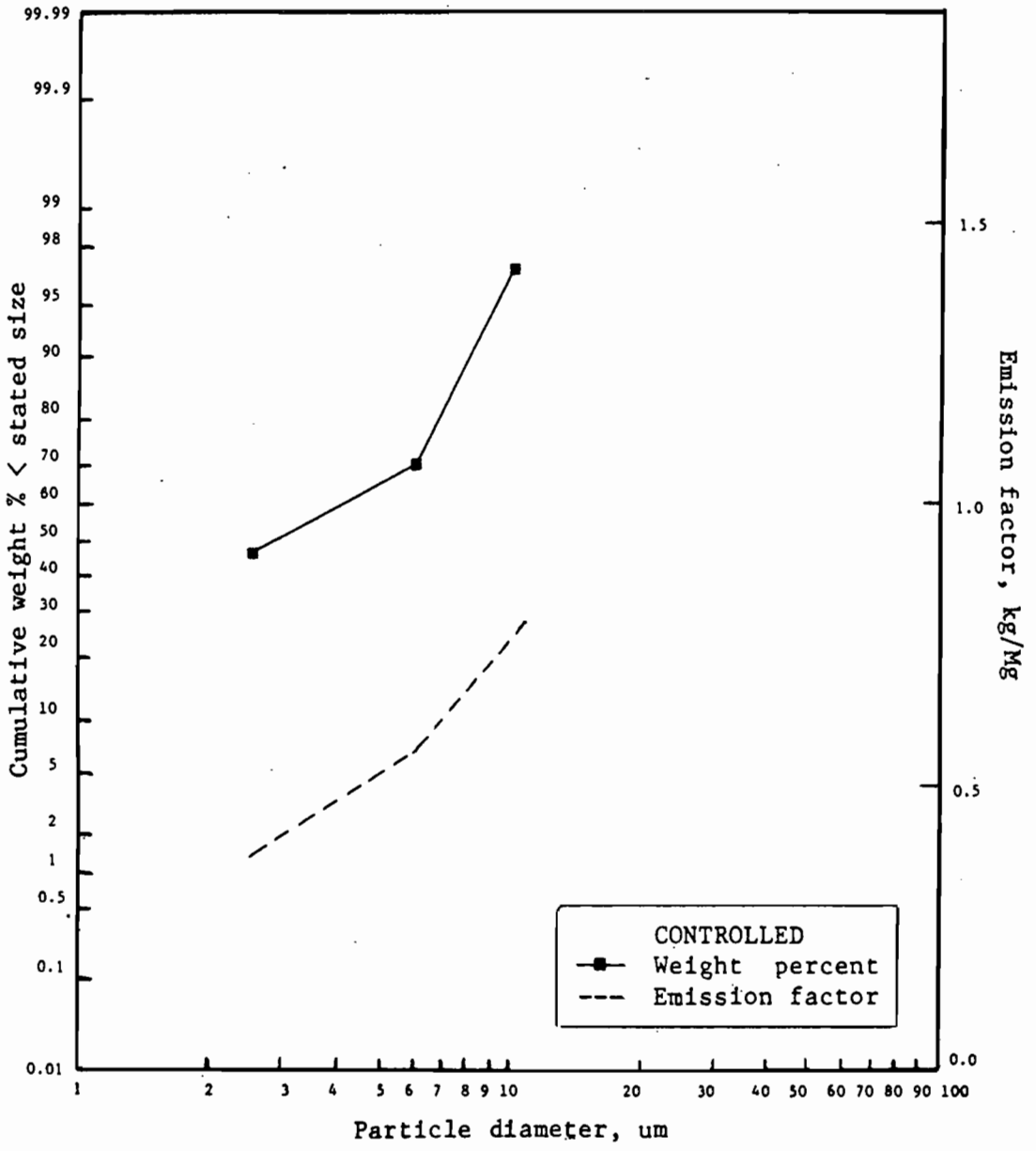
AP-42
Fourth Edition
September 1985

COMPILATION OF AIR POLLUTANT EMISSION FACTORS

Volume I: Stationary Point And Area Sources

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office Of Air And Radiation
Office Of Air Quality Planning And Standards
Research Triangle Park, North Carolina 27711

September 1985



Aerodynamic particle diameter, um	Cumulative wt. % < stated size	Emission factor, kg/Mg
	Wet scrubber controlled	Wet scrubber controlled
2.5	46.3	0.37
6.0	70.5	0.56
10.0	97.1	0.78

NUMBER OF TESTS: 2, conducted after wet scrubber control

STATISTICS: Aerodynamic particle diameter (um):	2.5	6.0	10.0
Mean (Cum. %):	46.3	70.5	97.1
Standard deviation (Cum. %):	0.9	0.9	1.9
Min (Cum. %):	45.4	69.6	95.2
Max (Cum. %):	47.2	71.4	99.0

TOTAL PARTICULATE EMISSION FACTOR: Approximately 0.8 kg particulate/Mg bagasse charged to boiler. This factor is derived from AP-42, Section 1.8, 4/77, which states that the particulate emission factor from an uncontrolled bagasse fired boiler is 8 kg/Mg and that wet scrubbers typically provide 90% particulate control.

SOURCE OPERATION: Source is a Riley Stoker Corp. vibrating grate spreader stoker boiler rated at 120,000 lb/hr but operated during this testing at 121% of rating. Average steam temperature and pressure were 579°F and 199 psig respectively. Bagasse feed rate could not be measured, but was estimated to be about 41 (wet) tons/hr.

SAMPLING TECHNIQUE: Anderson Cascade impactor.

EMISSION FACTOR RATING: D

REFERENCE:

Emission Test Report, U. S. Sugar Company, Bryant, Fl, EMB-80-WFB-6, U. S. Environmental Protection Agency, Research Triangle Park, NC, May 1980.

P 274 007 693

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to A.R. Mayo, V.P. U.S. Sugar Corporation	
Street and No. P.O. Drawer 1207	
P.O., State and ZIP Code Clewiston, FL 33440	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date Mailed: 09/15/87 Permit: AC 50-137573 Bryant Mill Boiler No. 5	

PS Form 3800, June 1985 ☆ U.S.G.P.O. 1985-480-794

PS Form 3811, July 1983 447-845

SENDER: Complete items 1, 2, 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☒ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to: Mr. A. R. Mayo, V.P.
U.S. Sugar Corporation
P.O. Drawer 1207
Clewiston, FL 33440

4. Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail

Article Number: P 274 007 693

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X

6. Signature – Agent
X

7. Date of Delivery 9-18-87

8. Addressee's Address *(ONLY if requested and fee paid)*

DOMESTIC RETURN RECEIPT

File

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

September 15, 1987

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. A. R. Mayo, Vice President
U.S. Sugar Corporation
P. O. Drawer 1207
Clewiston, Florida 33440

Dear Mr. Mayo:

Re: File No. AC 50-137573, Bryant Mill Boiler No. 5

The Department has received comments from EPA on your application for permit to increase the steam production of the Bryant Mill Boiler No. 5. Their comments are enclosed.

As the application for permit for this source was not complete on July 31, 1987, it will be necessary to evaluate PM_{10} and the effects of downwash. Please address these items along with the information requested earlier in out August 19, 1987, letter to you.

Sincerely,

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/WH/s

cc: D. Knowles
G. Sacco
W. Aronson
D. Buff

attachment

9-3-87
Atlanta, GA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

SEP 01 1987

DER
SEP 8 1987
BAQM

4APT/APB-jeh

Mr. Clair H. Fancy, Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

RE: PSD-FL-009, U.S. Sugar Corporation, Bryant Mill, Boiler No. 5, PSD Permit Modification

Dear Mr. Fancy:

We have received the Prevention of Significant Deterioration (PSD) permit modification package for U.S. Sugar Corporation's Bryant Mill, which was sent to our office on August 7, 1987. After reviewing the company's application for a steam rate increase at Boiler No. 5, we have several issues which we would like to bring to your attention. Our comments are as follows:

1) On July 1, 1987, EPA published the revised National Ambient Air Quality Standard (NAAQS) for particulate matter (PM_{10}). All complete PSD applications submitted after July 31, 1987, must meet the new PM_{10} requirements for PSD. The proposed steam rate increase at U.S. Sugar Corporation will constitute a major modification under these new rules, because the net increase in PM_{10} emissions is greater than 15 tons per year. However, a PSD review for PM_{10} will not be required if the application is considered to be complete prior to July 31, 1987. In that case, the source would be required to meet both the PSD requirements and the particulate matter standards (for TSP) which were in effect prior to July 31, 1987. On the other hand, if U.S. Sugar Corporation's application is not deemed to be complete until after July 31, 1987, then the new PM_{10} requirements would apply to the source and the steam rate increase at Boiler No. 5 will be subject to PSD review for PM_{10}.

   In a separate letter, dated August 24, 1987 (copy enclosed), EPA has requested that Florida review its PSD rules and provide us with an interpretation on whether PM_{10} can immediately be considered a regulated pollutant under PSD. How this source will be permitted with respect to the new PM_{10} requirements depends partially on that interpretation.

2) We have reviewed the modeling submitted with U.S. Sugar Corporation's application and have several concerns. First, it is not made clear in

the application whether the boiler's stack height is equivalent to the Good Engineering Practice (GEP) stack height. If the stack is less than GEP, then the modeling should be adjusted to take into consideration the effects of downwash. Second, the modeling analysis did not address the combined impact of all the particulate sources in the area, only the impact of the existing Bryant Mill plus the net impact of the changes at Boiler No. 5. We are requesting that the analysis be revised to include all overlapping particulate contributions from surrounding sources and any change in particulate emission levels that have occurred since the original PSD analysis was performed. The total combined impact should be presented for all averaging times (24-hour and annual). It should also be noted that an ambient air quality analysis for PM_{10} and a TSP increment analysis may also be required if the source is required to do a PSD review for PM_{10}.

Thank you for the opportunity to review the permit modification request from U.S. Sugar Corporation. Please let us know how you wish to proceed with the permitting of this source. If you have any questions, please contact me or Janet Hayward of my staff at (404) 347-2864.

Sincerely yours,

Bruce P. Miller

Bruce P. Miller, Chief
Air Programs Branch
Air, Pesticides, and Toxics
Management Division

Enclosure

cc: Willard Hanks, FLDER-
Max Linn
David Knowles, South FL Dist
CHF/BT

9-8-87 RGN

File Copy

UNITED STATES SUGAR CORPORATION

Post Office Drawer 1207 Clewiston, Florida 33440
Telephone: (813) 983-8121 Telex: 510-952-7753

July 28, 1987

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DER
JUL 31 1987
BAQM

RECEIVED
DER - MAIL ROOM
1987 JUL 31 PM 1:30

RE: Bryant Mill Boiler No. 5
Application for Modification of
Permits No. AC50-5177 and AO50-110302

Dear Mr. Fancy:

Enclosed for filing please find copies of an application for modification of the referenced Department air permits for Boiler No. 5 at U. S. Sugar Corporation's Bryant Mill. The requested permit modification would recognize a higher steam production rate for Boiler No. 5 to better reflect the available operating capacity of the boiler.

The air construction permit (No. AC50-5177) for Boiler No. 5 was originally issued by the Department on September 20, 1978 and modified on August 15, 1979. An air operation permit was issued on October 16, 1980. A renewal air operation permit (No. AO50-110302) was issued on October 9, 1985 and revised on December 9, 1985. Both the construction permit and the operation permits contemplated a nominal steam production capacity of 250,000 pounds per hour. It has become apparent that Boiler No. 5 is capable, under certain favorable bagasse conditions, of producing substantially more steam than originally contemplated. U. S. Sugar therefore seeks permit modifications to provide for steam production capacity of up to 296,698 pounds per hour (24-hour average) and 341,974 lb/hr (maximum one hour rate).

The requested increase in steam production rate will help to meet the Bryant Mill's need for additional steam by allowing Boiler No. 5 to operate at its available production capacity. It should also reduce the amount of bagasse surplus stored at the Mill, thereby reducing the potential for emissions of fugitive dust from bagasse storage and handling. Finally, it will provide a needed margin to ensure that the originally contemplated steam production rate does not unnecessarily restrict boiler operation in view of the variable combustion characteristics of bagasse and unavoidable fluctuations in Mill operating conditions.

The requested permit modification does not involve a significant increase in the emissions of any regulated pollutant, and thus PSD review is not triggered. We therefore hope that the Department will be able to expeditiously process the enclosed application. Please be advised that

copies of the application are also being provided to the U. S. Environmental Protection Agency's Region IV office because that agency issued a federal PSC permit for Boiler No. 5 on August 30, 1979. It is our understanding that the Department will perform the administrative and technical review in connection with modification of the federal permit, and that EPA Region IV will issue any final modification of that permit.

We look forward to working with you and your staff in this permit modification effort.

Sincerely,

UNITED STATES SUGAR CORPORATION

A. R. Mayo
Senior Vice Pres., Sugar Houses

ARM:jt
Enclosures: 3 copies Application
3 copies Computer Model Printouts
cc: Mr. David Knowles
Mr. Bruce Miller
Mr. David Buff, P.E.
Mr. Peter C. Cunningham, Esq.

P.S.
Also enclosed is U. S. Sugar Corporation's check for $250.00 to cover application fee as per your schedule.

Willard Hanks 8/4/87 MJ
Max Linn 8/6/87 MJ
Wayne Aronson
Isidore Goldman } 8/7/87 MJ

UNITED STATES SUGAR CORPORATION
Post Office Drawer 1207 Clewiston, Florida 33440
Telephone: (813) 983-8121 Telex: 510-952-7753

July 28, 1987

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental
Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Bryant Mill Boiler No. 5
Application for Modification of
Permits No. AC50-5177 and AO50-110302

Dear Mr. Fancy:

Enclosed for filing please find copies of an application for modification of the referenced Department air permits for Boiler No. 5 at U. S. Sugar Corporation's Bryant Mill. The requested permit modification would recognize a higher steam production rate for Boiler No. 5 to better reflect the available operating capacity of the boiler.

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VENDOR COPY

UNITED STATES SUGAR CORPORATION
Clewiston, Florida 33440

BEST AVAILABLE COPY

INVOICE NUMBER		INVOICE AMOUNT	MEMO
	PERMIT MOD. BOILER #5 BRYANT	250.00	OTHER - OPERATIONS RELATED

1943

DATE	VOUCHER NUMBER	CHECK NUMBER	BANK NUMBER	GROSS AMOUNT	DISCOUNT AMOUNT	NET AMOUNT DUE
7/30/87	1564-07-87	056174	03	250.00	.00	250.00

UNITED STATES SUGAR CORPORATION
Clewiston, Florida 33440

1943

FIRST UNION NATIONAL BANK OF FLORIDA
WEST PALM BEACH, FL

No. 03 056174

DATE	AMOUNT
7/30/87	$******250.00

EXACTLY *******250 DOLLARS 00 CENTS

VOID VOID

PAY TO THE ORDER OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

SPECIAL ACCOUNT

AUTHORIZED SIGNATURE

[redacted]

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

No 76174

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from United States Sugar Corporation Date July 31, 1985

Address U.S Route 98, Bryant, Fl. Dollars $ 250.00

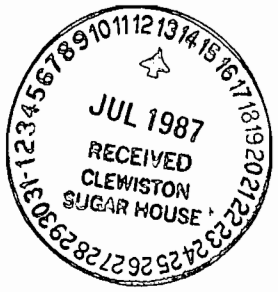
Applicant Name & Address A R Mayo, V.P, P.O. Drawer 1207, Clewiston, Fl. 33440

Source of Revenue √ #-056174

Revenue Code 001031 Application Number AC 50-137573

By Mayo V Jones

U.S. SUGAR
BRYANT - BOILER 5
PM INCREASE



KBN Engineering
and Applied Sciences, Inc.
P.O. BOX 14288 • GAINESVILLE, FL 32604
(904) 375-8000

*** ISCST BY KBN 11/86 *** BRYANT - BOILER NO. 5 ONLY - PM INCREASE - 1970 - ADD. RECPT ***

*** SOURCE DATA ***

SOURCE NUMBER	T Y P E	W A K E	NUMBER PART. CATS.	EMISSION RATE TYPE=0,1 (GRAMS/SEC) TYPE=2 (GRAMS/SEC) *PER METER**2	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	HEIGHT (METERS)	TEMP. TYPE=0 (DEG.K); VERT.DIM TYPE=1 (METERS)	EXIT VEL. TYPE=0 (M/SEC); HORZ.DIM TYPE=1,2 (METERS)	DIAMETER TYPE=0 (METERS)	BLDG. HEIGHT TYPE=0 (METERS)	BLDG. LENGTH TYPE=0 (METERS)	BLDG. WIDTH TYPE=0 (METERS)
1	0	0	0	0.11640E+02	0.0	0.0	0.0	30.50	339.00	33.20	2.21	0.00	0.00	0.00
2	0	0	0	-.98800E+01	0.0	0.0	0.0	30.50	339.00	28.20	2.21	0.00	0.00	0.00

* CALM HOURS (=1) FOR DAY	1 *	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	3 *	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	11 *	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	12 *	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	14 *	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	15 *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	
* CALM HOURS (=1) FOR DAY	16 *	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	17 *	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	18 *	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	19 *	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	25 *	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	
* CALM HOURS (=1) FOR DAY	26 *	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	
* CALM HOURS (=1) FOR DAY	27 *	1	1	1	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	1	1	
* CALM HOURS (=1) FOR DAY	28 *	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	30 *	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	39 *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
* CALM HOURS (=1) FOR DAY	40 *	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	43 *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0
* CALM HOURS (=1) FOR DAY	44 *	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	
* CALM HOURS (=1) FOR DAY	45 *	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	46 *	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	49 *	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	
* CALM HOURS (=1) FOR DAY	50 *	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	
* CALM HOURS (=1) FOR DAY	51 *	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	54 *	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	
* CALM HOURS (=1) FOR DAY	55 *	0	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
* CALM HOURS (=1) FOR DAY	56 *	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	65 *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
* CALM HOURS (=1) FOR DAY	66 *	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	71 *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	
* CALM HOURS (=1) FOR DAY	74 *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
* CALM HOURS (=1) FOR DAY	75 *	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	78 *	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	80 *	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	83 *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	
* CALM HOURS (=1) FOR DAY	84 *	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	85 *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	
* CALM HOURS (=1) FOR DAY	89 *	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	90 *	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	95 *	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* CALM HOURS (=1) FOR DAY	96 *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	
* CALM HOURS (=1) FOR DAY	99 *	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1		
* CALM HOURS (=1) FOR DAY	100 *	1	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	
* CALM HOURS (=1) FOR DAY	274 *	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
* CALM HOURS (=1) FOR DAY	275 *	1	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	
* CALM HOURS (=1) FOR DAY	276 *	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
* CALM HOURS (=1) FOR DAY	277 *	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

AC 50-137573

APPLICATION FOR STEAM RATE INCREASE

U.S. SUGAR CORPORATION
BRYANT BOILER NO. 5

JULY 1987

KBN Engineering and Applied Sciences, Inc.
P.O. Box 14288
Gainesville, Florida 32604
(904) 375-8000

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Bagasse/Oil-fired Boiler [ ] New[1] [X] Existing[1]

APPLICATION TYPE: [ ] Construction [ ] Operation [X] Modification

COMPANY NAME: U.S. Sugar Corporation - Bryant Mill COUNTY: Palm Beach

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) Boiler No. 5

SOURCE LOCATION: Street U.S. Route 98 City Bryant

UTM: East Zone 17 537.8 km North 2969.1 km

Latitude 26 ° 50 ' 41 "N Longitude 80 ° 37 ' 9 "W

APPLICANT NAME AND TITLE: Mr. A.R. Mayo, Vice President

APPLICANT ADDRESS: P.O. Drawer 1207, Clewiston, Florida 33440

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of U.S. Sugar Corporation

I certify that the statements made in this application for a construction permit are true, correct and complete to the best of my knowledge and belief. Further I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: A.R. Mayo

A.R. Mayo, Vice President
Name and Title (Please Type)

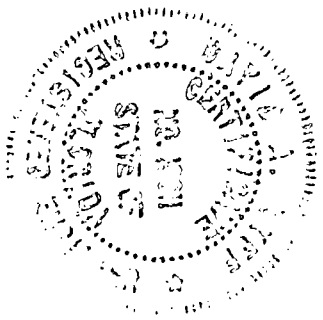
Date: JUL 13 1987 Telephone No. (813) 983-8121

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

[1] See Florida Administrative Code Rule 17-2.100(57) and (104)

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.



Signed David A. Buff

David A. Buff
Name (Please Type)

KBN Engineering and Applied Sciences, Inc.
Company Name (Please Type)

P.O. Box 14288, Gainesville, Florida 32604
Mailing Address (Please Type)

Florida Registration No. 19011 Date: July 8, 1987 Telephone No. (904) 375-8000

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

See Attachment A

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction * Completion of Construction *

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

No additional controls required; the existing scrubber is capable of accomodating the higher steam production rate. The existing stack will be utilized.

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Permit No.	AC50-5177	A050-7096	A050-110302
Issued	9/20/78	10/16/80	10/9/85
Modified	8/15/79	-	12/9/85
Expired	9/20/80	10/16/85	10/9/90

* No physical construction is required. Boiler, control equipment and other associated equipment are capable of accomodating the higher steam production rate requested

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 21* ; if power plant, hrs/yr ; if seasonal, describe:

*This is an agricultural operation and the length of the crop is dependent upon weather conditions that affect the size of the crop and the harvesting operation, and the operating time may vary but is generally November through March (approximately 21 weeks per year)

F. If this is a new source or major modification, answer the following questions. (Yes or No) Not applicable - Minor modification (see Attachment A)

1. Is this source in a non-attainment area for a particular pollutant?

   a. If yes, has "offset" been applied?

   b. If yes, has "Lowest Achievable Emission Rate" been applied?

   c. If yes, list non-attainment pollutants.

2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.

3. Does the State "Prevention of Significant Deterioriation" (PSD) requirement apply to this source? If yes, see Sections VI and VII.

4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?

5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source?

H. Do "Reasonably Available Control Technology" (RACT) requirements apply to this source? NO

   a. If yes, for what pollutants?

   b. If yes, in addition to the information required in this form, any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justification for any anawer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Not Applicable

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): Not Applicable

2. Product Weight (lbs/hr): steam (see Attachment A)

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

(See Attachment A)

Name of Contaminant	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard.

[4] Emission, if source operated without control (See Section V, Item 3).

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Spray Impingement	Particulate	>90%	0.1 micron	stack tests
Scrubber (equivalent to JOY				
Turbulaire size 150 Type D				

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Bagasse	See Attachment A		710.0
No. 6 Fuel Oil	See Attachment A		215.6

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis: Bagasse*/Oil

Percent Sulfur: 0-0.1/0.7 Percent Ash: 0.3-4.3/0.1

Density: Oil - 8.4 lbs/gal Typical Percent Nitrogen: 0.03-0.47/0.2-0.9

Heat Capacity: 3600/17,500 BTU/lb Oil - 147,000 BTU/gal

*As-fired (wet) basis

Other Fuel Contaminants (which may cause air pollution): N/A

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average Not Applicable Maximum

G. Indicate liquid or solid wastes generated and method of disposal.

Water from scrubber is used to sluice cane juice mud. Scrubber water is discharged to holding ponds.

4. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 100 ft. Stack Diameter: 7.25 ft.

Gas Flow Rate: 269,650* ACFM 181,542* DSCFM Gas Exit Temperature: 150 °F.

Water Vapor Content: 25 % Velocity: 108.9* FPS

*At maximum 24-hour steam rate

SECTION IV: INCINERATOR INFORMATION

Not Applicable

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq.& Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diamter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner

[ ] Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
   See Attachment A
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
   See Attachment A
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
   See Attachment A
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
   See Attachment A
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency). See Attachment A
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
   Attached
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
   Attached
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
   Attached

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

Not Applicable

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

[ ] Yes [ ] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

[ ] Yes [ ] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

D. Describe the existing control and treatment technology (if any).

1. Control Device/System:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height: ft.

b. Diameter: ft.

c. Flow Rate: ACFM

d. Temperature: °F.

e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

[1]Explain method of determining efficiency.
[2]Energy to be reported in units of electrical power - KWH design rate.

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

a. Control Device:

b. Operating Principlea:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency:[1]

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:[2]

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

[1]Explain method of determining efficiency.
[2]Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

b. (1) Company:

(2) Mailing Address:

(3) City: (4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

10. Reason for selection and description of systems:

[1]Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data Not Applicable

1. _____no. sites _____ TSP _____( ) SO^2* _____ Wind spd/dir

Period of Monitoring ____/____/____ to ____/____/____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

a. Was instrumentation EPA referenced or its equivalent? [ ] Yes [ ] No

b. Was instrumentation calibrated in accordance with Department procedures?

[ ] Yes [ ] No [ ] Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from _____/_____/_____ to _____/_____/_____
month day year month day year

2. Surface data obtained from (location)_____

3. Upper air (mixing height) data obtained from (location)_____

4. Stability wind rose (STAR) data obtained from (location)_____

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate	
TSP	_____	grams/sec
SO^2	_____	grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

ATTACHMENT A

1.0 PROJECT DESCRIPTION

U.S. Sugar Corporation's Bryant Mill is located in northwest Palm Beach County, near the town of Pahokee (see Figures 1-1 and 1-2). Currently, four boilers are permitted to operate at the Bryant mill. Boilers No. 1, 2 and 3 are older bagasse/oil fired boilers. Boiler No. 5 is a newer bagasse/oil fired boiler. A plot plan of the mill is presented in Figure 1-3, and a flow diagram of the process is shown in Figure 1-4.

Operational experience with Bryant Boiler No. 5 has indicated that it is capable, under certain favorable bagasse conditions, of producing more steam than suggested by the design capacity figure that appears in the currently effective air operating permit for the boiler. U.S. Sugar Corporation therefore wishes to conform the figures used in the Boiler No. 5 air operating permit to better reflect the actual steam production capacity of the boiler.

Boiler No. 5 received an air construction permit from the Florida Department of Environmental Regulation (FDER) on September 20, 1978. This construction permit was modified on August 15, 1979. A Prevention of Significant Deterioration (PSD) permit from the U.S. Environmental Protection Agency (USEPA) was issued on August 30, 1979. The boiler was issued an FDER air operation permit on October 16, 1980, which was renewed on October 9, 1985, and modified on December 9, 1985.

The current FDER air operation permit indicates that Boiler No. 5 has a nominal design steam production capacity of 250,000 pounds per hour (lb/hr) as a 24-hour average. U.S. Sugar now seeks revision of the steam production capacity indicated in the Boiler No. 5 permit to better reflect the actual capacity of Boiler No. 5. Specifically, a permit revision to indicate steam production capacity for Boiler No. 5 of 296,698 lb/hr (24-hour average) and 341,974 lb/hr (maximum 1-hour rate) is requested. No physical changes to Boiler No. 5 will be required to achieve the steam rate increase. The existing equipment, including bagasse handling equipment and wet scrubber, are already capable of accommodating the increased steam production rates.

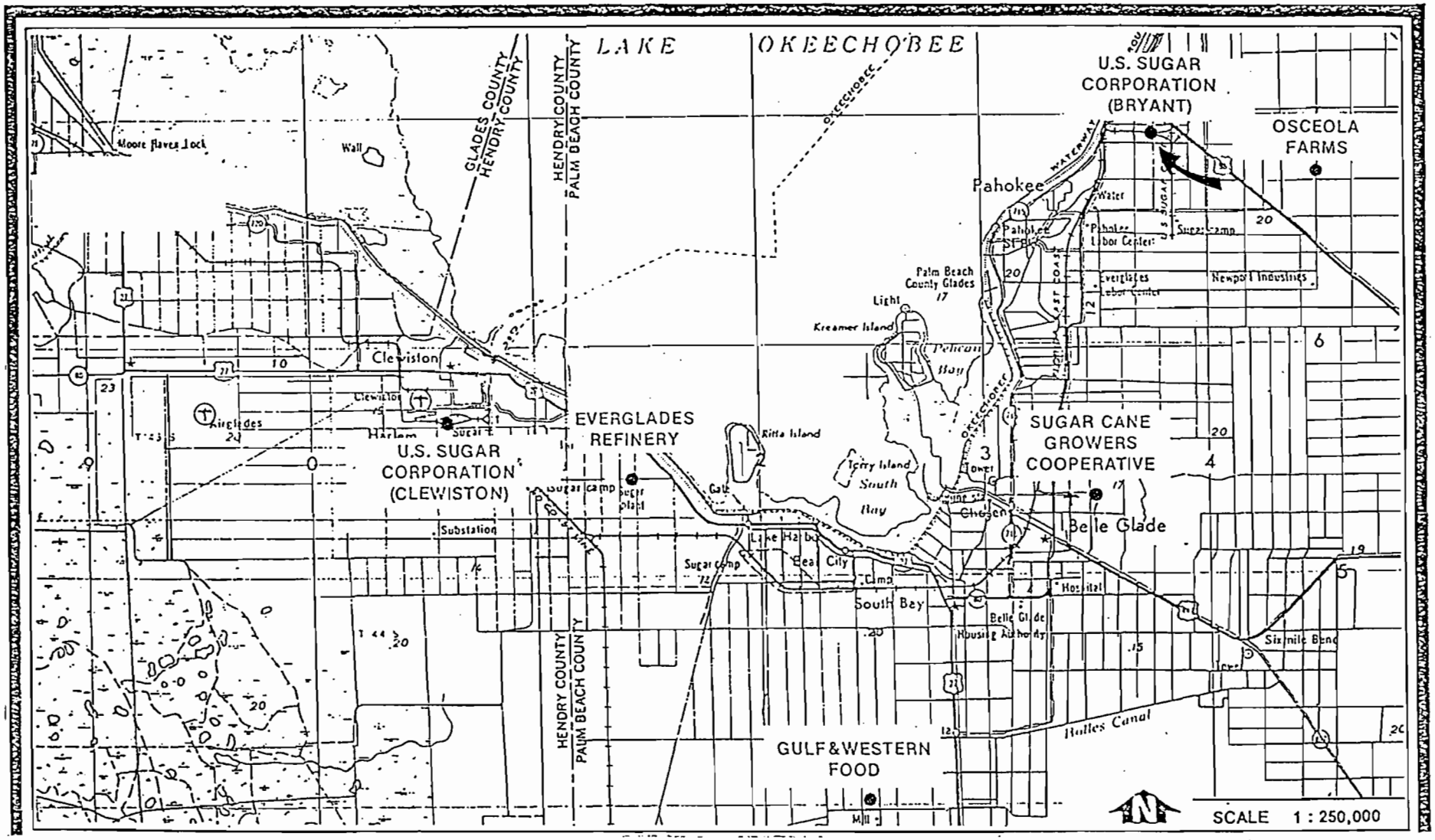


Figure 1-1. Location of U.S. Sugar Corporation Bryant Mill, Palm Beach County, Florida

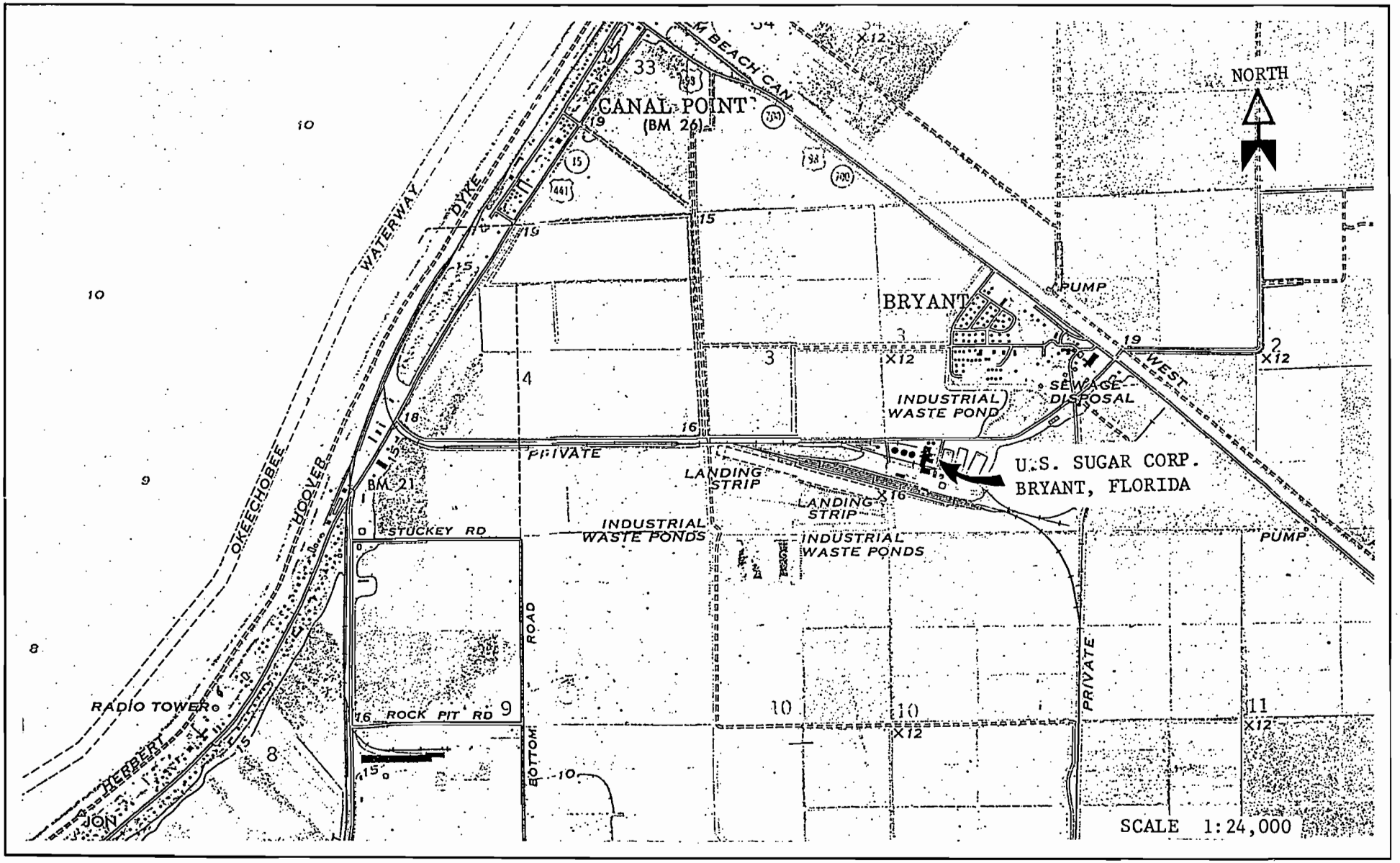


Figure 1-2. Location Map of Bryant Mill, U.S. Sugar Corporation

KBN

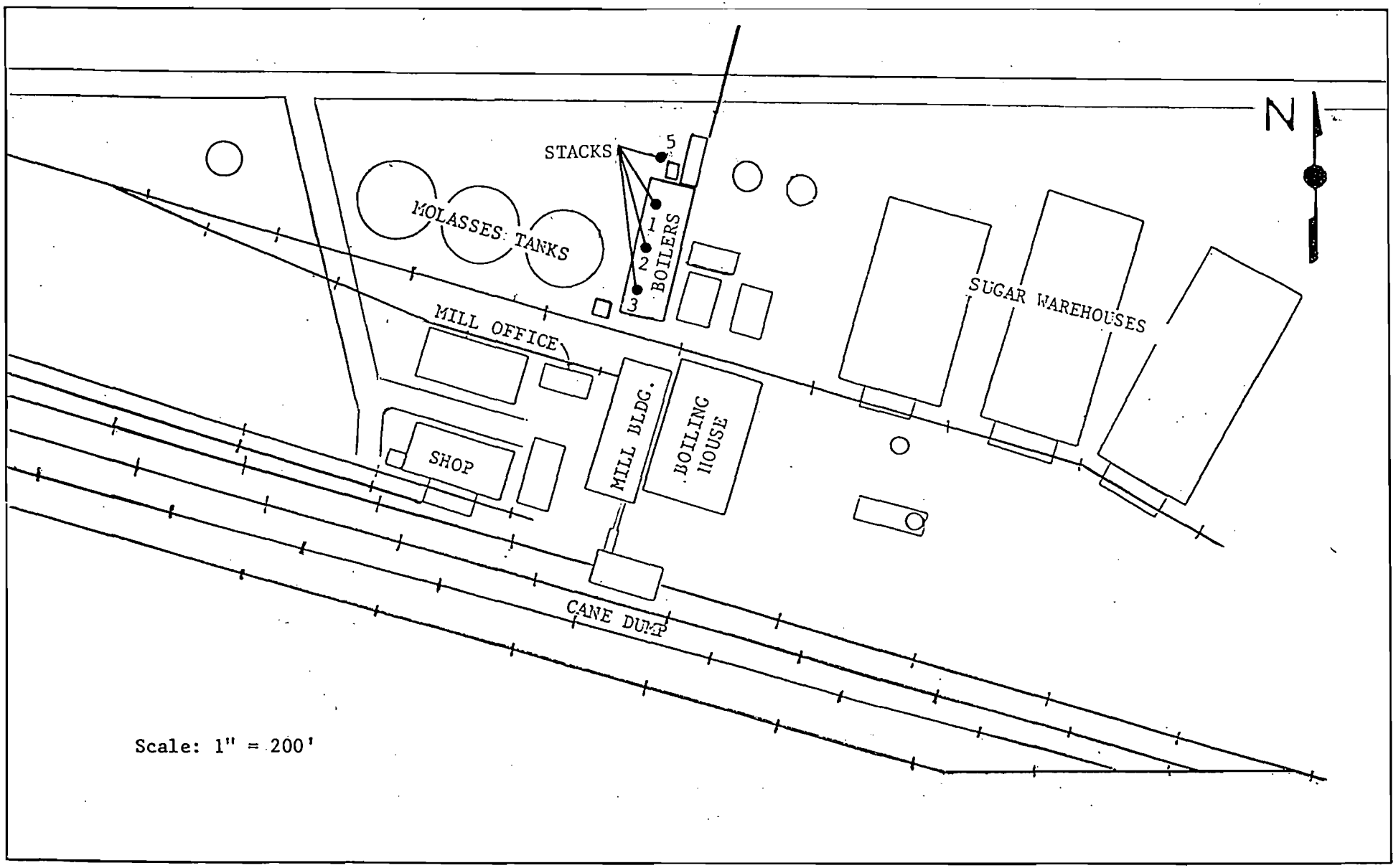


Figure 1-3. Plot Plan of U.S. Sugar Corporation, Bryant Mill

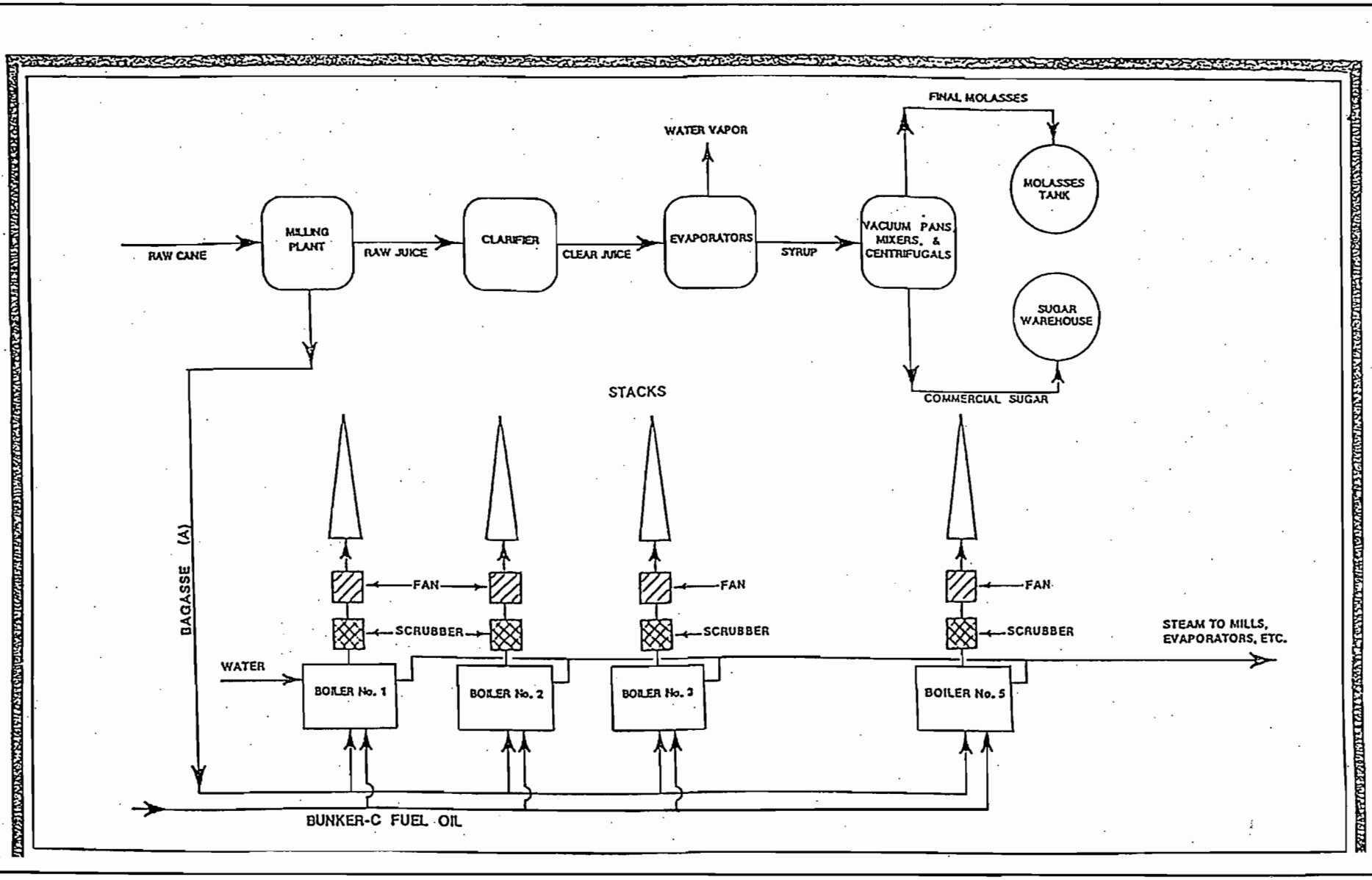


Figure 1-4. Process Flow Diagram, Bryant Mill, U.S. Sugar Corporation

No increase in the maximum fuel oil burning rate for Boiler No. 5 is being requested.

A summary of operating data for the boiler, at both the current and the increased steam production rates, is presented in Table 1-1. Supportive calculations are presented in Attachment B.

2.0 EMISSIONS FROM BOILER NO. 5

The increased steam production rates associated with Boiler No. 5 will require increased bagasse burning to supply the heat necessary to generate the steam. The increased fuel burning rates will result in an increase in air emissions from the boiler. A summary of the proposed air emission rates for Boiler No. 5, reflective of the increased steam production rates, is presented in Table 2-1. Emissions in terms of maximum hourly, maximum 24-hour average, and maximum annual are shown, and emission factors are presented ($lb/10^6$ Btu) for each fuel fired. The basis of the emission factors and emission rates, and supportive calculations, are presented in Attachment B.

In the case of sulfur dioxide (SO_2), different emission factors were used for the short-term and annual average averaging times. For the short-term averaging times (i.e., 24-hours or less), a reasonable maximum bagasse sulfur content was considered to be 0.2% (dry basis). This value has been used in other sugar industry permit applications, such as the U.S. Sugar Clewiston Boiler No. 4 steam rate increase application.

In developing a reasonable annual average bagasse sulfur content, bagasse analysis from the Florida Sugar Cane League (FSCL) was reviewed. Two recent studies prepared by the FSCL presented extensive analysis of bagasse samples from the sugar cane industry. In the first study (FSCL, 1985), seventy-three (73) bagasse samples were analyzed, and the average sulfur content was 0.06% (dry basis). In the second study (FSCL, 1986), forty (40) bagasse samples were analyzed, and the average sulfur content was 0.081% (dry basis). Based upon the extensive bagasse analysis available, a maximum

Table 1-1. Proposed Maximum Operating Rates, U.S. Sugar Bryant Boiler No. 5.

Parameter	Averaging Time 1-Hour	Averaging Time 24-Hour
Steam Rate (lb/hr)	341,974	296,698
Heat Input Rate (10^6 Btu/hr)		
Bagasse only	710.0	616.0
Bagasse/fuel oil*	494.4/215.6	400.4/215.6
Fuel Burning Rate (lb/hr)**		
Bagasse only	197,222	171,111
Bagasse/fuel oil*	137,333/12,320	111,222/12,320

* At maximum fuel oil burning rate with remainder from bagasse.
** Bagasse on as-fired (wet) basis.

Table 2-1. Summary of Proposed Emission Rates, Bryant Boiler No. 5

Pollutant	Emission Factor ($lb/10^6$ Btu)		Emissions When Burning 100% Bagasse		Emissions When Burning Maximum Fuel Oil*		Maximum Annual Emissions (tons/yr)
	Bagasse	Fuel Oil	Maximum Hourly (lb/hr)	Max 24-hr Average (lb/hr)	Maximum Hourly (lb/hr)	Max 24-hr Average (lb/hr)	
Particulate Matter	0.15	0.10	106.5	92.4	95.7	81.6	162.99
Sulfur Dioxide	0.50**	0.75	355.0	308.0	408.9	361.9	286.4
Nitrogen Oxides	0.17	0.46	120.7	104.7	183.2	167.3	193.2
Carbon Monoxide	0.25	0.034	177.5	154.0	130.9	107.4	271.7
Volatile Org. Cmpds.	0.194	0.0052	137.7	119.5	97.0	78.8	210.8

* With remainder of heat input due to bagasse burning.
** On an annual average basis, emission factor is 0.25 $lb/10^6$ Btu

annual average sulfur content in bagasse was considered to be 0.10% (dry basis). The two FSCL studies show average sulfur levels well below the 0.10% level. In developing the emission factors shown in Table 2-1, these short and long term average bagasse sulfur contents were used, assuming 100% conversion of the sulfur to SO_2 and no SO_2 removal efficiency in the boiler/wet scrubber system for Boiler No. 5.

Maximum annual average emission rates for Boiler No. 5 at the increased steam production rates were calculated on the basis of the maximum 24-hour average steam production and heat input rates, assuming 147 crop days per year. However, it should be recognized that the U.S. Sugar Bryant mill is an agricultural operation and the length of the crop is dependent upon weather conditions that affect the size of the crop and the harvesting operation. The actual operating days fluctuate, sometimes considerably. It is the total annual steam production, together with the emission rates, that determine and limit the annual emissions. The number of days of operation per se is not seen as a limitation to the operation of Boiler No. 5.

As a result, it is requested that a limit not be placed on operating hours or days for the boiler. As an alternative measure to insure that the requested annual emissions will not be exceeded, a limit can be placed upon total annual steam production. Based upon the maximum 24-hour average steam rate of 296,698 lb/hr, the annual steam production limitation is calculated as follows:

296,698 lb/hr x 24 hr/day x 147 days/yr
= 1,046,750,505 lb/yr steam.

3.0 SOURCE APPLICABILITY

Presented in Table 3-1 is a comparison of air emissions from Boiler No. 5 at the steam production rate currently indicated in its air operating permit and air emissions at the proposed increased steam production rate. The "current" emission rates shown were obtained from the original USEPA PSD permit or developed based upon information contained in the original air construction permit application for Boiler No. 5. Major

Table 3-1. Current, Proposed and Net Increase in Emissions, U.S. Sugar Bryant Boiler No. 5

Pollutant	Current Emissions			Proposed Future Emissions			Net Emissions Increase			PSD Significant Emission Rate (TPY)
	Maximum (lb/hr)	24-Hr.Avg. (lb/hr)	Annual (TPY)	Maximum (lb/hr)	24-Hr.Avg. (lb/hr)	Annual (TPY)	Maximum (lb/hr)	24-Hr.Avg. (lb/hr	Annual (TPY)	
Particulate Matter	78.41	78.41	138.31	106.50	92.40	162.99	28.09	13.99	24.68	25
Sulfur Dioxide	257.79	257.79	250.0	408.9	361.9	286.4	151.1	104.1	36.4	40
Nitrogen Oxides	139.2	139.2	160.7	183.2	167.3	193.2	44.0	28.1	32.5	40
Carbon Monoxide	130.7	130.7	230.6	177.5	154.0	271.7	46.8	23.3	41.1	100
Vol. Org. Compounds	101.4	101.4	178.9	137.7	119.5	210.8	36.3	18.1	31.9	40

Note: Worst case emissions for PM, CO and VOC occur when burning 100% bagasse; worst case emissions for SO_2 and NO_x occur when burning the maximum allowable fuel oil with the remainder of heat input due to bagasse.
TPY = Tons Per Year

factors from the original air permitting effort affecting the emission rate calculations are summarized below:

* 250,000 lb/hr average steam, 522.7 x 10^6 Btu/hr heat input rate.

* Particulate matter (PM) emissions limited to 0.15 lb/10^6 Btu from bagasse and 0.10 lb/10^6 Btu from fuel oil.

* Fuel usage (bagasse/fuel oil) limits set solely to limit SO_2 emissions to less than 250 tons/year. Maximum fuel sulfur content assumed to be 0.05% (wet basis) in bagasse and 0.7% in fuel oil. No SO_2 removal in the boiler/wet scrubber system was assumed.

* Nitrogen oxides (NO_x) emissions based upon emission factor; emissions were not estimated for carbon monoxide (CO) or for volatile organic compounds (VOC).

* Annual emissions based upon 147 crop days per year at an average production rate of 250,000 lb/hr steam, or 522.7 x 10^6 Btu/hr heat input rate.

Detailed calculations presenting the basis for the current emissions are contained in Attachment C.

Three averaging times are reflected in Table 3-1: 1-hour, 24-hour, and annual average. The proposed maximum emissions for each pollutant reflect the worst-case fuel mix (i.e., bagasse only or bagasse/oil combination).

The net increase in emissions associated with the proposed steam rate increase is shown in Table 3-1 for each pollutant and averaging time. For comparison purposes, the PSD significant emission rates are also shown. As indicated, the net increases on an annual basis are less than the PSD

significant emission rate for each pollutant. As a result, the proposed modification is not subject to PSD review.

4.0 STACK PARAMETERS

The existing stack serving Boiler No. 5 will continue to be utilized after the proposed steam rate increase is implemented. Since the existing scrubber serving Boiler No. 5 is already capable of handling the greater exhaust gas flow which will result from the higher steam production rates, no change in exit gas temperature is expected. Exhaust gas flow rates will increase at the higher steam production rates due to increased bagasse burning. Exhaust gas flow rates at the proposed maximum steam rates were estimated on the basis of a recent stack test on Boiler No. 5. Both maximum 1-hour and 24-hour flow rates were estimated, and are shown in Table 4-1.

5.0 AIR QUALITY IMPACT ANALYSIS

Since the proposed modification is not subject to PSD review, an air quality analysis is not required to be submitted by the applicant. However, it is recognized that the air impact analysis performed for the original PSD permit showed a maximum 24-hour total suspended particulate (TSP) impact of 145 ug/m^3 due to all sources at the Bryant mill. This impact is just below the 24-hour ambient air quality standard (AAQS) of 150 ug/m^3. Therefore, to resolve any concerns that may surround the increase in PM emissions from Boiler No. 5 at Bryant, an air impact analysis of the increase was performed as part of this permit application, and is described below.

The Industrial Source Complex Short-Term (ISCST) model was used, following standard USEPA methodology and regulatory default options. Five years of West Palm Beach preprocessed meteorological data (1970-1974) were used. Receptors were placed in a radial grid surrounding the Bryant mill, with the Boiler No. 5 stack at the center of the grid. A total of 36 radials, spaced 10 degrees apart, and 11 downwind distances along each radial, ranging from 200 m to 3200 m downwind, comprised the grid.

Table 4-1. Exhaust Gas Flow Rates for Boiler No. 5 at Current and Proposed Operating Rates*

Condition	Steam Rate (lb/hr)	Heat Input Rate (10^6 Btu/hr)	Estimated Gas Flow Rate** (acfm)	(dscfm)	Estimated Exit Velocity+ (ft/s)
Current Operating Rate	250,000	522.7	228,810	154,045	92.4
Proposed Operating Rates					
Maximum 1-hour	341,974	710.0	310,800	209,245	125.5
Maximum 24-hour	296,698	616.0	269,650	181,540	108.9

* Reflective of maximum steam production rates and burning bagasse only.
** Based upon stack tests conducted on Boiler No. 5 on February 5, 1987, burning bagasse only.
+ Stack diameter is 7.25 ft.

Two scenarios were analyzed in the impact analysis: 1) the impact of only Boiler No. 5 at the proposed higher steam rate and higher PM emissions, and 2) the increase (i.e., change) in allowable PM emissions from Boiler No. 5 due to the proposed steam rate increase. To properly determine the increase in ground-level impacts, Boiler No. 5 was modeled with current 24-hour PM emissions (78.4 lb/hr) and stack parameters, and with future 24-hour PM emissions (92.4 lb/hr) and stack parameters, in the same model run. Current emissions were modeled as negative in order to produce the "net" increase in impacts. Stack parameters are the same for both modeled cases, except for exhaust gas flow rate (see Table 4-1). Based upon the predicted small increase in PM impacts, no refinements of the maximums were performed.

The results of the modeling analysis are presented in Table 5-1. Results for Boiler No. 5 only are shown, as well as the net increase in impacts due to the proposed increase in PM emissions of 13.99 lb/hr and 24.7 tons per year. The predicted maximum impact of Boiler No. 5 only, at the proposed steam rate and allowable PM emissions, is 1.0 ug/m^3, annual average, and 9.9 ug/m^3, 24-hour maximum (highest, second-highest). The predicted net increase in PM impacts due to the proposed steam rate increase is less than 0.1 ug/m^3, annual average, and 0.7 ug/m^3, 24-hour maximum.

The model results show that the increase in PM emissions due to the steam rate increase is offset somewhat by the increased exhaust gas flow rate associated with the increased steam production (and bagasse burning). The increased gas flow rate results in higher plume rise, and therefore, lower ground-level impacts.

The net increase in PM impacts are well below the USEPA and FDER significant impact levels for PM of 1 ug/m^3, annual average, and 5 ug/m^3, 24-hour maximum. Based upon the air quality impact evaluation presented in the original permit application, which showed the maximum 24-hour PM impact to be 145 ug/m^3, the present modeling analysis demonstrates that the 0.7 ug/m^3 maximum increase in 24-hour PM concentrations will not result in exceedance of the 24-hour PM AAQS of 150 ug/m^3.

Table 5-1. Results of PM Modeling Analysis for Boiler No. 5

Year	Annual Average Impact: Concentration (ug/m^3)	Annual Average Impact: Dist. (m)	Annual Average Impact: Direction (degrees)	24-Hour Impact*: Concentration (ug/m^3)	24-Hour Impact*: Day	24-Hour Impact*: Dist. (m)	24-Hour Impact*: Direction (degrees)
Boiler No. 5 Only at Proposed Steam Rate**							
1970	1.0	1600	250	9.7	279	1900	250
1971	1.1	1500	260	9.6	327	1500	260
1972	0.9	1900	270	9.1	295	1500	240
1973	0.9	1600	250	8.9	295	1500	220
1974	1.0	1900	270	9.9	285	1600	240
Net Increase Due to Boiler No. 5 Steam Rate Increase***							
1970	0.05	3200	250	0.7	279	3200	250
1971	0.06	3200	260	0.6	327	2800	260
1972	0.05	3200	270	0.6	295	2500	240
1973	0.04	3200	250	0.6	294	2800	220
1974	0.05	3200	260	0.6	285	3200	240

* Highest, second-highest impacts are presented.

** PM emissions of 92.4 lb/hr, based upon 24-hour maximum steam rate of 296,698.

*** Net increase due to Boiler No. 5 at 78.41 lb/hr (current PM emissions) and 92.4 lb/hr (proposed 24-hour maximum PM emissions).

REFERENCES

Florida Sugar Cane League, 1985. Study on Application of the F-Factor to Bagasse-Fired Boilers. Clewiston, Florida, 33440.

Florida Sugar Cane League, 1986. F-Factor Study, 1986. Clewiston, Florida, 33440.

ATTACHMENT B

Bryant Boiler No. 5 Emission Calculations

ATTACHMENT B

Bryant Boiler No. 5 Emission Calculations

A. Boiler Operating Data

1. Steam Enthalpies

Boiler feedwater @ 340°F = 311.3 Btu/lb

Steam @ 850 psig, 900°F = 1453.2 Btu/lb

Heat gain by steam = 1453.2 - 311.3 = 1141.9 Btu/lb

2. Steam Rate Calculations

a. Assumptions

All calculations based upon 55% boiler efficiency when firing bagasse, 80% boiler efficiency when firing oil.

b. Maximum hourly steam production

Maximum hourly heat input = 710.0×10^6 Btu/hr

710.0×10^6 Btu/hr x 0.55 / 1141.9 Btu/lb = 341,974 lb/hr steam

c. Maximum 24-hour average steam production

Maximum 24-hour average heat input = 616.0×10^6 Btu/hr

616.0×10^6 Btu/hr x 0.55 / 1141.9 Btu/lb = 296,698 lb/hr steam

3. Bagasse Burning Rate Calculations

a. Assumptions

Calculations based upon a minimum bagasse heating value of 3600 Btu/lb (wet)

b. Maximum hourly bagasse burning rate

710.0×10^6 Btu/hr / 3600 Btu/lb = 197,222 lb/hr bagasse

c. Maximum 24-hour average bagasse burning rate

616.0×10^6 Btu/hr / 3600 Btu/lb = 171,111 lb/hr bagasse

d. Maximum bagasse burning rate when burning maximum amount of fuel oil:

Maximum heat input due to fuel oil = 215.6×10^6 Btu/hr

(same as in original permit application)

Remainder of heat input due to bagasse burning -

Maximum hourly: 710.0 - 215.6 = 494.4 x 10^6 Btu/hr

Bagasse burning rate = 494.4 x 10^6 / 3600 Btu/lb = 137,333 lb/hr

Maximum 24-hour average: 616.0 - 215.6 = 400.4 x 10^6 Btu/hr

Bagasse burning rate = 400.4 x 10^6 / 3600 = 111,222 lb/hr

4. Fuel Oil Burning Rates

From original permit application - maximum heat input due to fuel oil = 215.6 x 10^6 Btu/hr

Associated steam production, based upon 80% boiler efficiency when burning fuel oil = 215.6 x 10^6 Btu/hr x 0.80 / 1141.9 Btu/lb

= 151,047 lb/hr steam

Fuel oil consumption, No. 6 oil, 0.7% S (max), 17,500 Btu/lb:

215.6 x 10^6 Btu/hr / 17,500 Btu/lb = 12,320 lb/hr oil

5. Annual Operating Data

The annual emission limit for each pollutant was calculated on an annual steam production rate of 1.047 x 10^9 lb/yr steam at 850 psig, 900°F with a heat input to the boiler of 2,173,248 x 10^6 Btu/yr. This is equivalent to 147 days of operation at the maximum 24-hour average steam production rate.

Total Btu heat input on annual basis based upon maximum 24-hour average heat input:

616.0 x 10^6 Btu/hr x 24 hr/day x 147 crop days/yr

= 2,173,248 x 10^6 Btu/yr

Maximum annual heat input due to fuel oil:

400,000 gal/yr x 8.4 lb/gal x 17,500 Btu/lb = 58,800 x 10^6 Btu/yr

Heat input from bagasse when maximum amount of fuel oil is burned:

2,173,248 x 10^6 Btu/yr - 58,800 x 10^6 Btu/yr = 2,114,448 x 10^6 Btu/yr

B. Emission Calculations

1. Particulate Matter (PM)

a. Emission factors

Bagasse : 0.15 lb/10^6 Btu (current permit limit)

Fuel Oil: 0.10 lb/10^6 Btu (current permit limit)

b. Maximum hourly emissions

Maximum bagasse burning: 710.0 x 10^6 Btu/hr x 0.15 lb/10^6 Btu

= 106.5 lb/hr

Maximum fuel oil burning with remainder due to bagasse burning:

Fuel oil- 215.6 x 10^6 Btu/hr x 0.10 lb/10^6 Btu

= 21.56 lb/hr

Bagasse - 494.4 x 10^6 Btu/hr x 0.15 lb/10^6 Btu

= 74.16 lb/hr

Total = 21.56 + 74.16 = 95.72 lb/hr

c. Maximum 24-hour average emissions

Maximum bagasse burning: 616.0 x 10^6 Btu/hr x 0.15 lb/10^6 Btu

= 92.4 lb/hr

Maximum fuel oil burning with remainder due to bagasse burning:

Fuel oil- same as max hourly - 21.56 lb/hr

Bagasse - 400.4 x 10^6 Btu/hr x 0.15 lb/10^6 Btu

= 60.06 lb/hr

Total = 21.56 + 60.06 = 81.62 lb/hr

d. Annual emissions

Maximum annual emissions based upon worst case fuel (bagasse):

2,173,248 x 10^6 Btu/yr x 0.15 lb/Btu / 2000 lb/ton = 162.99

2. Sulfur dioxide (SO_2)

a. Emission factors

Bagasse : Maximum of 0.2% S (dry basis) in bagasse (@ 8,000 Btu/lb, dry). Annual average sulfur content of bagasse is less than 0.1% S (dry basis).

Maximum emission factor:

0.002 lb S/lb bagasse x 2 lb SO_2/lb S / 8000 Btu/lb

= 0.50 lb SO_2/10^6 Btu

Annual average emission factor:

0.001 lb S/lb bagasse x 2 lb SO_2/lb S / 8000 Btu/lb

= 0.25 lb $SO_2/10^6$ Btu

Fuel Oil: AP-42 Factor (Table 1.3-1) - 157 S lb/1000 gal

Fuel sulfur content = 0.7%

Fuel heating value = 17,500 Btu/lb @ 8.4 lb/gal = 147,000 Btu/gal

Emission factor = 157 (0.7) = 109.9 lb/1000 gal

109.9 lb/1000 gal / 147,000 Btu/gal = 0.75 lb $SO_2/10^6$ Btu

b. Maximum hourly emissions

Maximum bagasse burning: 710.0 x 10^6 Btu/hr x 0.50 lb/10^6 Btu

= 355.0 lb/hr

Maximum fuel oil burning with remainder due to bagasse burning:

Fuel oil- 215.6 x 10^6 Btu/hr x 0.75 lb/10^6 Btu = 161.7 lb/hr

Bagasse - 494.4 x 10^6 Btu/hr x 0.50 lb/10^6 Btu = 247.2 lb/hr

Total = 161.7 + 247.2 = 408.9 lb/hr

c. Maximum 24-hour average emissions

Maximum bagasse burning: 616.0 x 10^6 Btu/hr x 0.50 lb/10^6 Btu

= 308.0 lb/hr

Maximum fuel oil burning with remainder due to bagasse burning:

Fuel oil- same as max hourly - 161.7 lb/hr

Bagasse - 400.4 x 10^6 Btu/hr x 0.50 lb/10^6 Btu

= 200.2 lb/hr

Total = 161.7 + 200.2 = 361.9 lb/hr

d. Annual emissions

Maximum annual emissions based upon maximum fuel oil burning plus remainder of heat input due to bagasse burning

Fuel oil- 58,800 x 10^6 Btu/yr x 0.75 lb/10^6 Btu / 2000 lb/ton

= 22.1 tons/yr

Bagasse - Remainder of annual heat input due to bagasse

2,114,448 x 10^6 Btu/yr x 0.25 lb/10^6 Btu

/ 2000 lb/ton = 264.3 tons/yr

Total - 22.1 + 264.3 = 286.4 tons/yr

3. Nitrogen oxides (NO_x)

a. Emission factors

Bagasse : AP-42 Factor (Table 1.8-1) - 1.2 lb/ton (wet)

1.2 lb/ton / 2000 lb/ton / 3600 Btu/lb = 0.17 lb/10^6 Btu

Fuel Oil: AP-42 Factor (Table 1.3-1) - 67 lb/1000 gal,

67 lb/1000 gal / 147,000 Btu/gal = 0.46 lb/10^6 Btu

b. Maximum hourly emissions

Maximum bagasse burning: 710.0 x 10^6 Btu/hr x 0.17 lb/10^6 Btu

= 120.7 lb/hr

Maximum fuel oil burning with remainder due to bagasse burning:

Fuel oil- 215.6 x 10^6 Btu/hr x 0.46 lb/10^6 Btu = 99.2 lb/hr

Bagasse - 494.4 x 10^6 Btu/hr x 0.17 lb/10^6 Btu = 84.0 lb/hr

Total = 99.2 + 84.0 = 183.2 lb/hr

c. Maximum 24-hour average emissions

Maximum bagasse burning: 616.0 x 10^6 Btu/hr x 0.17 lb/10^6 Btu

= 104.7 lb/hr

Maximum fuel oil burning with remainder due to bagasse burning:

Fuel oil- same as max hourly - 99.2 lb/hr

Bagasse - 400.4 x 10^6 Btu/hr x 0.17 lb/10^6 Btu = 68.1 lb/hr

Total = 99.2 + 68.1 = 167.3 lb/hr

d. Annual emissions

Maximum annual emissions based upon maximum fuel oil burning plus remainder of heat input due to bagasse burning

Fuel oil- 58,800 x 10^6 Btu/yr x 0.46 lb/10^6 Btu

/ 2000 lb/ton = 13.5 tons/yr

Bagasse - Remainder of annual heat input due to bagasse

2,114,448 x 10^6 Btu/yr x 0.17 lb/10^6 Btu

/ 2000 lb/ton = 179.7 tons/yr

Total - 13.5 + 179.7 = 193.2 tons/yr

4. Carbon monoxide (CO)

   a. Emission factors

      Bagasse : From U.S. Sugar Clewiston Boiler No. 4 permit application, maximum CO estimated at 0.25 lb/10^6 Btu

      Fuel Oil: AP-42 Factor (Table 1.3-1) - 5 lb/1000 gal

      5 lb/1000 gal / 147,000 Btu/gal = 0.034 lb/10^6 Btu

   b. Maximum hourly emissions

      Maximum bagasse burning: 710.0 x 10^6 Btu/hr x 0.25 lb/10^6 Btu = 177.5 lb/hr

      Maximum fuel oil burning with remainder due to bagasse burning:

      Fuel oil- 215.6 x 10^6 Btu/hr x 0.034 lb/10^6 Btu = 7.33 lb/hr

      Bagasse - 494.4 x 10^6 Btu/hr x 0.25 lb/10^6 Btu = 123.6 lb/hr

      Total = 7.33 + 123.6 = 130.93 lb/hr

   c. Maximum 24-hour average emissions

      Maximum bagasse burning: 616.0 x 10^6 Btu/hr x 0.25 lb/10^6 Btu = 154.0 lb/hr

      Maximum fuel oil burning with remainder due to bagasse burning:

      Fuel oil- same as max hourly - 7.33 lb/hr

      Bagasse - 400.4 x 10^6 Btu/hr x 0.25 lb/10^6 Btu = 100.1 lb/hr

      Total = 7.33 + 100.1 = 107.43 lb/hr

   d. Annual emissions

      Maximum annual emissions based upon worst case fuel (bagasse):

      2,173,248 x 10^6 Btu/yr x 0.25 lb/Btu / 2000 lb/ton = 271.7 tons/yr

5. Volatile organic compounds (VOC)

   a. Emission factors

      Bagasse : Emission factor based upon AP-42 factor for wood waste combustion (Table 1.6-1) - 1.4 lb/ton (wet; non-methane VOC)

      1.4 lb/ton / 2000 lb/ton / 3600 Btu/lb = 0.194 lb/10^6 Btu

      Fuel Oil: AP-42 Factor (Table 1.3-1) - 0.76 lb/1000 gal (non-methane VOC)

      0.76 lb/1000 gal / 147,000 Btu/gal = 0.0052 lb/10^6 Btu

b. Maximum hourly emissions

Maximum bagasse burning:

710.0×10^6 Btu/hr x 0.194 lb/10^6 Btu = 137.7 lb/hr

Maximum fuel oil burning with remainder due to bagasse burning:

Fuel oil- 215.6×10^6 Btu/hr x 0.0052 lb/10^6 Btu = 1.1 lb/hr

Bagasse - 494.4×10^6 Btu/hr x 0.194 lb/10^6 Btu = 95.91 lb/hr

Total = 1.1 + 95.9 = 97.0 lb/hr

c. Maximum 24-hour average emissions

Maximum bagasse burning:

616.0×10^6 Btu/hr x 0.194 lb/10^6 Btu = 119.5 lb/hr

Maximum fuel oil burning with remainder due to bagasse burning:

Fuel oil- same as max hourly - 1.1 lb/hr

Bagasse - 400.4×10^6 Btu/hr x 0.194 lb/10^6 Btu = 77.7 lb/hr

Total = 1.1 + 77.7 = 78.8 lb/hr

d. Annual emissions

Maximum annual emissions based upon worst case fuel (bagasse):

$2,173,248 \times 10^6$ Btu/yr x 0.194 lb/Btu / 2000 lb/ton = 210.8 tons/yr

ATTACHMENT C

Basis of Original PSD Permit
for Boiler No. 5

ATTACHMENT C

Basis of Original PSD Permit (Issued August 30, 1979)

A. Boiler Design Parameters

Maximum heat input = 522.7 x 10^6 Btu/hr

Maximum operating days = 147

Maximum heat input from fuel oil = 215.6 x 10^6 Btu/hr

Maximum bagasse burned = 145,194 lb/hr

Maximum fuel oil burned = 1,467 gal/hr

Bagasse specifications: 3600 Btu/lb (wet)
Sulfur content = 0.05% (wet)

Fuel oil specifications: 17,500 Btu/lb @ 8.4 lb/gal
Sulfur content = 0.7%

B. Emission Rates

a. PM

Basis - 0.15 lb/10^6 Btu for bagasse, 0.1 lb/10^6 Btu for oil

Maximum hourly emissions: 522.7 x 10^6 Btu/hr x 0.15 lb/10^6 Btu
= 78.405 lb/hr

Maximum annual emissions: 78.405 lb/hr x 24 hr/day x 147 days/yr
/ 2000 lb/ton = 138.31 tons/yr

b. SO_2

Basis - 0.8 lb/10^6 Btu for 0.7% S oil
0.05% S (wet) for bagasse

Maximum hourly emission occur when burning max oil plus bagasse.

Fuel oil: 215.6 x 10^6 Btu/hr x 0.8 lb/10^6 Btu = 172.48 lb/hr

Bagasse : Heat input due to bagasse = 522.7 - 215.6 = 307.1 x 10^6 Btu/hr

Bagasse burning rate = 307.1 x 10^6 Btu/hr / 3600 Btu/lb
= 85,306 lb/hr

85,306 lb/hr x 0.0005 lb S/lb bag x 2 lb SO_2/lb S
= 85.31 lb/hr (wet)

Total = 172.48 + 85.31 = 257.79 lb/hr

Maximum annual emissions (based upon fuel usage limits in permit which were set solely to limit SO_2 emissions to 250 tons per year or less):

Fuel Oil - 400,000 gal/yr x 8.4 lb/gal x 17,500 Btu/lb x 0.8 lb/10^6 Btu / 2000 lb/ton = 23.5 tons/yr

Bagasse - 226,500 tons/yr x 0.0005 x 2 / 2000 lb/ton = 226.5 tons/yr

Total - 23.5 + 226.5 = 250.0 tons/yr

c. NO_x

Basis - 1.2 lb/ton (wet) for bagasse
60 lb/1000 gal for oil

Maximum hourly emissions:

Bagasse only burning: 145,194 lb/hr / 2000 lb/ton x 1.2 lb/ton = 87.1 lb/hr

Max fuel oil burning with bagasse:

Fuel oil @ 1,467 gal/hr x 60 lb/1000 gal = 88.0 lb/hr

Bagasse @ 85,306 lb/hr / 2000 lb/ton x 1.2 lb/ton = 51.2 lb/hr

Total = 88.0 + 51.2 = 139.2 lb/hr

Maximum annual emissions (occurs when burning max oil plus bagasse)

Equivalent hours of burning fuel oil at maximum rate

= 400,000 gal / 1,467 gal/hr = 272.67 hours = 11.4 days

Therefore, days when burning all bagasse = 147 - 11.4 = 135.6 days

NO_x emissions when burning fuel oil at max rate when bagasse

= 139.2 lb/hr x 24 x 11.4 days / 2000 = 19.0 tons/yr

NO_x emissions when burning all bagasse

= 87.1 lb/hr x 24 x 135.6 days / 2000 = 141.7 tons/yr

Total - 19.0 + 141.7 = 160.7 tons/yr

d. CO

Basis - Bagasse - No emissions given for CO from bagasse burning in original permit application. Therefore, factor used in the present application (0.25 lb/10^6 Btu) was used as basis.

Fuel oil - 5 lb/1000 gal (0.034 lb/10^6 Btu)

Maximum hourly emissions occur when burning bagasse:

522.7 x 10^6 Btu/hr x 0.25 lb/10^6 Btu = 130.7 lb/hr

Maximum annual emissions - also occur when burning all bagasse

130.7 lb/hr x 24 hr/day x 147 days/yr / 2000 lb/ton - 230.6 tons/yr

e. VOC

Basis: Bagasse - No emissions given for VOC from bagasse burning in original permit application. Therefore, factor used in the present application (1.4 lb/ton wet, or 0.194 lb/10^6 Btu) was used as basis.

Fuel oil - 1 lb/1000 gal (0.0068 lb/10^6 Btu)

Maximum hourly emissions occur when burning bagasse:

522.7 x 10^6 x 0.194 = 101.4 lb/hr

Maximum annual emissions - also occur when burning all bagasse:

101.4 lb/hr x 24 x 147 / 2000 = 178.9 tons/yr

ATTACHMENT D

Supportive Information

TABLE 1.3-1. UNCONTROLLED EMISSION FACTORS FOR FUEL OIL COMBUSTION

EMISSION FACTOR RATING: A

Boiler Type[a]	Particulate Matter[b]		Sulfur Dioxide[c]		Sulfur Trioxide		Carbon Monoxide[d]		Nitrogen Oxide[e]		Volatile Organics[f] Nonmethane		Methane	
	$kg/10^3$ l	$lb/10^3$ gal	$kg/10^3$ l	$lb/10^3$ gal	$kg/10^3$ l	$lb/10^3$ gal	$kg/10^3$ l	$lb/10^3$ gal	$kg/10^3$ l	$lb/10^3$ gal	$kg/10^3$ l	$lb/10^3$ gal	$kg/10^3$ l	$lb/10^3$ gal
Utility Boilers														
Residual Oil	g	g	19S	157S	0.34S[h]	2.9S[h]	0.6	5	8.0 (12.6)(5)[i]	67 (105)(42)[i]	0.09	0.76	0.03	0.28
Industrial Boilers														
Residual Oil	g	g	19S	157S	0.24S	2S	0.6	5	6.6[j]	55[j]	0.034	0.28	0.12	1.0
Distillate Oil	0.24	2	17S	142S	0.24S	2S	0.6	5	2.4	20	0.024	0.2	0.006	0.052
Commercial Boilers														
Residual Oil	g	g	19S	157S	0.24S	2S	0.6	5	6.6	55	0.14	1.13	0.057	0.475
Distillate Oil	0.24	2	17S	142S	0.24S	2S	0.6	5	2.4	20	0.04	0.34	0.026	0.216
Residential Furnaces														
Distillate Oil	0.3	2.5	17S	142S	0.24S	2S	0.6	5	2.2	18	0.085	0.713	0.214	1.78

[a] Boilers can be approximately classified according to their gross (higher) heat rate as shown below:
Utility (power plant) boilers: >106 x 10^9 J/hr (>100 x 10^6 Btu/hr)
Industrial boilers: 10.6 x 10^9 to 106 x 10^9 J/hr (10 x 10^6 to 100 x 10^6 Btu/hr)
Commercial boilers: 0.5 x 10^9 to 10.6 x 10^9 J/hr (0.5 x 10^6 to 10 x 10^6 Btu/hr)
Residential furnaces: <0.5 x 10^9 J/hr (<0.5 x 10^6 Btu/hr)

[b] References 3-7 and 24-25. Particulate matter is defined in this section as that material collected by EPA Method 5 (front half catch).

[c] References 1-5. S indicates that the weight % of sulfur in the oil should be multiplied by the value given.

[d] References 3-5 and 8-10. Carbon monoxide emissions may increase by factors of 10 to 100 if the unit is improperly operated or not well maintained.

[e] Expressed as NO_2. References 1-5, 8-11, 17 and 26. Test results indicate that at least 95% by weight of NO_x is NO for all boiler types except residential furnaces, where about 75% is NO.

[f] References 18-21. Volatile organic compound emissions are generally negligible unless boiler is improperly operated or not well maintained, in which case emissions may increase by several orders of magnitude.

[g] Particulate emission factors for residual oil combustion are, on average, a function of fuel oil grade and sulfur content:
Grade 6 oil: 1.25(S) + 0.38 $kg/10^3$ liter [10(S) + 3 $lb/10^3$ gal] where S is the weight % of sulfur in the oil. This relationship is based on 81 individual tests and has a correlation coefficient of 0.65.
Grade 5 oil: 1.25 $kg/10^3$ liter (10 $lb/10^3$ gal)
Grade 4 oil: 0.88 $kg/10^3$ liter (7 $lb/10^3$ gal)

[h] Reference 25.

[i] Use 5 $kg/10^3$ liters (42 $lb/10^3$ gal) for tangentially fired boilers, 12.6 $kg/10^3$ liters (105 $lb/10^3$gal) for vertical fired boilers, and 8.0 $kg/10^3$ liters (67 $lb/10^3$ gal) for all others, at full load and normal (>15%) excess air. Several combustion modifications can be employed for NO_x reduction: (1) limited excess air can reduce NO_x emissions 5-20%, (2) staged combustion 20-40%, (3) using low NO_x burners 20-50%, and (4) ammonia injection can reduce NO_x emissions 40-70% but may increase emissions of ammonia. Combinations of these modifications have been employed for further reductions in certain boilers. See Reference 23 for a discussion of these and other NO_x reducing techniques and their operational and environmental impacts.

[j] Nitrogen oxides emissions from residual oil combustion in industrial and commercial boilers are strongly related to fuel nitrogen content, estimated more accurately by the empirical relationship:
kg $NO_2/10^3$ liters = 2.75 + 50$(N)^2$ [lb $NO_2/10^3$gal = 22 + 400$(N)^2$] where N is the weight % of nitrogen in the oil. For residual oils having high (>0.5 weight %) nitrogen content, use 15 kg $NO_2/10^3$ liter (120 lb $NO_2/10^3$gal) as an emission factor.

TABLE 1.6-1. EMISSION FACTORS FOR WOOD AND BARK COMBUSTION IN BOILERS

Pollutant/Fuel Type/Control	kg/Mg	lb/ton	Emission Factor Rating
Particulate[a,b]			
Bark[c]			
Multiclone, with fly ash reinjection[d]	7	14	B
Multiclone, without fly ash reinjection[d]	4.5	9	B
Uncontrolled	24	47	B
Wood/bark mixture[e]			
Multiclone, with fly ash reinjection[f]	3	6	C
Multiclone, without fly ash reinjection[f]	2.7	5.3	C
Uncontrolled[g]	3.6	7.2	C
Wood[h]			
Uncontrolled	4.4	8.8	C
Sulfur Dioxide[j]	0.075 (0.01 - 0.2)	0.15 (0.02 - 0.4)	B
Nitrogen Oxides (as NO_2)[k]			
50,000 - 400,000 lb steam/hr	1.4	2.8	B
<50,000 lb steam/hr	0.34	0.68	B
Carbon Monoxide[m]	2 - 24	4 - 47	C
VOC			
Nonmethane[n]	0.7	1.4	D
Methane[p]	0.15	0.3	E

[a]References 2, 4, 9, 17-18. For boilers burning gas or oil as an auxiliary fuel, all particulates are assumed to result from only wood waste fuel.

[b]May include condensible hydrocarbons consisting of pitches and tars, mostly from back half catch of EPA Method 5. Tests reported in Reference 20 indicate that condensible hydrocarbons account for 4% of total particulate weight.

[c]Based on fuel moisture content of about 50%.

[d]After control equipment, assuming an average collection efficiency of 80%. Data from References 4, 7-8 indicate that 50% fly ash reinjection increases the dust load at the cyclone inlet 1.2 to 1.5 times, while 100% fly ash reinjection increases the load 1.5 to 2 times without reinjection.

[e]Based on fuel moisture content of 33%.

[f]Based on large dutch ovens and spreader stokers (averaging 23,430 kg steam/hr) with steam pressures from 20 - 75 kpa (140 - 530 psi).

[g]Based on small dutch ovens and spreader stokers (usually operating <9075 kg steam/hr), with pressures from 5 - 30 kpa (35 - 230 psi). Careful air adjustments and improved fuel separation and firing were used on some units, but the effects cannot be isolated.

[h]References 12-13, 19, 27. Wood waste includes cuttings, shavings, sawdust and chips, but not bark. Moisture content ranges from 3 - 50 weight %. Based on small units (<3000 kg steam/hr) in New York and North Carolina.

[j]Reference 23. Based on tests of fuel sulfur content and sulfur dioxide emissions at four mills burning bark. The lower limit of the range (in parentheses) should be used for wood, and higher values for bark. A heating value of 5000 kcal/kg (9000 BTU/lb) is assumed. The factors are based on the dry weight of fuel.

[k]References 7, 24-26. Several factors can influence emission rates, including combustion zone temperatures, excess air, boiler operating conditions, fuel moisture and fuel nitrogen content. Factors on a dry weight basis.

[m]Reference 30. Factors on a dry weight basis.

[n]References 20, 30. Nonmethane VOC reportedly consists of compounds with a high vapor pressure such as alpha pinene.

[p]Reference 30. Based on an approximation of methane/nonmethane ratio, which is very variable. Methane, expressed as a % of total volatile organic compounds, varied from 0 - 74 weight %.

Table 1.8-1. EMISSION FACTORS FOR UNCONTROLLED BAGASSE BOILERS
EMISSION FACTOR RATING: C

	Emission factors			
	lb/10^3 lb steam[a]	g/kg steam[a]	lb/ton bagasse[b]	kg/MT bagasse[b]
Particulate[c]	4	4	16	8
Sulfur oxides	d	d	d	d
Nitrogen oxides[e]	0.3	0.3	1.2	0.6

[a] Emission factors are expressed in terms of the amount of steam produced, as most mills do not monitor the amount of bagasse fired. These factors should be applied only to that fraction of steam resulting from bagasse combustion. If a significant amount (>25% of total Btu input) of fuel oil is fired with the bagasse, the appropriate emission factors from Table 1.3-1 should be used to estimate the emission contributions from the fuel oil.

[b] Emissions are expressed in terms of wet bagasse, containing approximately 50 percent moisture, by weight. As a rule of thumb, about 2 pounds (2 kg) of steam are produced from 1 pound (1kg) of wet bagasse.

[c] Multi-cyclones are reportedly 20 to 60 percent efficient on particulate from bagasse boilers. Wet scrubbers are capable of effecting 90 or more percent particulate control. Based on Reference 1.

[d] Sulfur oxide emissions from the firing of bagasse alone would be expected to be negligible as bagasse typically contains less than 0.1 percent sulfur, by weight. If fuel oil is fired with bagasse, the appropriate factors from Table 1.3-1 should be used to estimate sulfur oxide emissions.

[e] Based on Reference 1.

Reference for Section 1.8

1. Background Document: Bagasse Combustion in Sugar Mills. Prepared by Environmental Science and Engineering, Inc., Gainesville, Fla., for Environmental Protection Agency under Contract No. 68-02-1402, Task Order No. 13. Document No. EPA-450/3-77-007. Research Triangle Park, N.C. October 1976.

PM
9-2-87
Atlanta, Ga

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

SEP 1 1987

DER
SEP 8 1987
BAQM

4APT/APB-jeh

Mr. Clair H. Fancy, Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

RE: PSD-FL-009, U.S. Sugar Corporation, Bryant Mill, Boiler No. 5, PSD Permit Modification

Dear Mr. Fancy:

We have received the Prevention of Significant Deterioration (PSD) permit modification package for U.S. Sugar Corporation's Bryant Mill, which was sent to our office on August 7, 1987. After reviewing the company's application for a steam rate increase at Boiler No. 5, we have several issues which we would like to bring to your attention. Our comments are as follows:

1) On July 1, 1987, EPA published the revised National Ambient Air Quality Standard (NAAQS) for particulate matter (PM_{10}). All complete PSD applications submitted after July 31, 1987, must meet the new PM_{10} requirements for PSD. The proposed steam rate increase at U.S. Sugar Corporation will constitute a major modification under these new rules, because the net increase in PM_{10} emissions is greater than 15 tons per year. However, a PSD review for PM_{10} will not be required if the application is considered to be complete prior to July 31, 1987. In that case, the source would be required to meet both the PSD requirements and the particulate matter standards (for TSP) which were in effect prior to July 31, 1987. On the other hand, if U.S. Sugar Corporation's application is not deemed to be complete until after July 31, 1987, then the new PM_{10} requirements would apply to the source and the steam rate increase at Boiler No. 5 will be subject to PSD review for PM_{10}.

   In a separate letter, dated August 24, 1987 (copy enclosed), EPA has requested that Florida review its PSD rules and provide us with an interpretation on whether PM_{10} can immediately be considered a regulated pollutant under PSD. How this source will be permitted with respect to the new PM_{10} requirements depends partially on that interpretation.

2) We have reviewed the modeling submitted with U.S. Sugar Corporation's application and have several concerns. First, it is not made clear in

9-8-87

~~CHF~~
~~BH~~ BH 9/8

FYI.

cc'd: David Knowles
Willard Hanks
Max Linn

9-8-87

Maggie,

FYI, then file.

the application whether the boiler's stack height is equivalent to the Good Engineering Practice (GEP) stack height. If the stack is less than GEP, then the modeling should be adjusted to take into consideration the effects of downwash. Second, the modeling analysis did not address the combined impact of all the particulate sources in the area, only the impact of the existing Bryant Mill plus the net impact of the changes at Boiler No. 5. We are requesting that the analysis be revised to include all overlapping particulate contributions from surrounding sources and any change in particulate emission levels that have occurred since the original PSD analysis was performed. The total combined impact should be presented for all averaging times (24-hour and annual). It should also be noted that an ambient air quality analysis for PM_{10} and a TSP increment analysis may also be required if the source is required to do a PSD review for PM_{10}.

Thank you for the opportunity to review the permit modification request from U.S. Sugar Corporation. Please let us know how you wish to proceed with the permitting of this source. If you have any questions, please contact me or Janet Hayward of my staff at (404) 347-2864.

Sincerely yours,

Bruce P. Miller

Bruce P. Miller, Chief
Air Programs Branch
Air, Pesticides, and Toxics
Management Division

Enclosure

cc: Willard Hanks, FLDER cc recd 9/8/87 (in the file)
Max Linn
David Knowles } 9/8/87 RAM
CHF/BT

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
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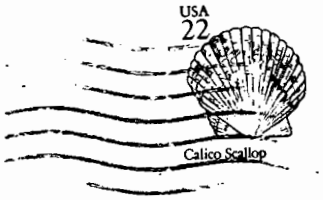

Mr. Clair H. Fancy, Deputy Chief
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Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

AUG 24 1987

4APT-AP/drw

Mr. Steve Smallwood, P.E., Chief
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Smallwood:

The Environmental Protection Agency (EPA) recently promulgated rules replacing TSP with PM_{10} as the indicator for the National Ambient Air Quality Standard (NAAQS) for particulate matter. When this change became effective on July 31, 1987, EPA became responsible for the protection of this new NAAQS. Accordingly, EPA amended its regulations at the same time, establishing the new requirements for PM_{10}. As stated in the published rulemaking, states with approved Prevention of Significant Deterioration (PSD) SIP's will have nine months from July 31, 1987, to revise their SIP's for PM_{10} and submit them to EPA for approval. Revised new source review regulations (in addition to new monitoring requirements and possibly PM_{10} control strategies) must be adopted and submitted to EPA by May 1, 1988. In the interim, EPA expects states to continue implementing their current PSD programs.

Some states' existing PSD regulations could, however, contain provisions which automatically incorporate PM_{10} as a regulated pollutant (by virtue of the fact that it will be a pollutant regulated under the federal Clean Air Act.) If such is the case, then those rules would immediately require the review of PM_{10} as a regulated pollutant, even though the state rules do not yet contain a specified significance level for PM_{10} emissions. Some states' regulations may also be open-ended enough to require that an ambient air quality analysis be performed for PM_{10} under the PSD permitting program. In either of these cases, TSP must continue to be considered a regulated pollutant under PSD as well as the indicator for PSD increments.

It is important that all states understand their new role concerning the implementation of PSD requirements for PM_{10}. The new PM_{10} requirements will impact all PSD permits applicants, and sources will need to know what regulations apply in your state. What is immediately required for PM_{10} will vary from state to state and will depend on the interpretation of each state's regulations. Therefore, we are requesting that you review your

existing PSD regulations to determine whether PM_{10} must immediately be reviewed as a regulated pollutant and whether PM_{10} will immediately be considered the new ambient air quality standard for particulate matter under PSD. This interpretation should be submitted to us in writing by October 1, 1987. EPA will expect all permit reviews to be consistent with this interpretation until such time as your regulations are revised to incorporate all the new PM_{10} requirements.

If further information or assistance is needed in this matter, please contact Gregg Worley, of my staff, at (404) 347-2864. I thank you in advance for your prompt attention to this matter.

Sincerely yours,

Bruce P. Miller

Bruce P. Miller, Chief
Air Programs Branch
Air, Pesticides, and Toxics
Management Division

UNITED STATES SUGAR CORPORATION
Post Office Drawer 1207 Clewiston, Florida 33440
Telephone: (813) 983-8121 Telex: 510-952-7753

December 18, 1987

Mr. Bruce P. Miller
Chief, Air Programs Branch
U. S. Environmental Protection Agency
Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Re: U. S. Sugar Corporation
Bryant Boiler No. 5
PSD Permit Modification

Dear Mr. Miller:

Enclosed for filing please find two copies of an application for modification of the federal PSD permit for Boiler No. 5 at U. S. Sugar Corporation's Bryant Mill. This application replaces our pending application submitted on July 28, 1987.

The original PSD permit for Bryant Boiler No. 5 was issued by EPA Region IV on August 30, 1979. The requested permit modification would recognize a higher steam production rate than was contemplated at that time to better reflect the available operating capacity of the boiler. The steam rate increase now sought is less than in the July 28th application, however, to ensure that any increase in PM_{10} emissions will be less than the 15 tons per year "significant increase" figure recently added to the federal PSD regulations. U. S. Sugar has chosen this course of action because of the urgent need for increased steam production at the Bryant Mill, and in view of the potential for delay in obtaining the larger increase requested in the July 28th application due to the new federal PM_{10} regulations. Consequently, this permit revisions does not involve a significant increase in the emissions of any regulated pollutant, and thus PSD review is not retriggered. You will note that an analysis of PM_{10} emissions and ambient air quality impacts is provided as Attachment F to the enclosed application. Question number 2. contained in your letter of September 1, 1987 to Clair Fancy of DER regarding the July 28th application is addressed in the air quality analysis portion of the enclosed application

Copies of the enclosed application are being filed simultaneously with the Florida Department of Environmental Regulation in connection with modification of the State air permits

for Boiler No. 5. It is our understanding that FDER will perform the administrative and technical review in connection with modification of the federal PSD permit, and that EPA Region IV will issue any final modification of the permit. If our understanding on this point is incorrect, or if you or your staff have any questions about the enclosed application, please advise.

Sincerely,

UNITED STATES SUGAR CORPORATION

A. R. Mayo
Senior Vice President
Sugar Houses

ARM:jt
Enclosures (2 copies of Application & 1 copy of ISCST Model)

cc: Mr. Clair Fancy, P.E.
Mr. David Knowles, P.E.
Mr. David Buff, P.E.
Mr. Peter C. Cunningham, Esq.

P 274 007 710

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to A.R. Mayo, V.P. U.S. Sugar Corporation	
Street and No. P.O. Drawer 1207	
P.O., State and ZIP Code Clewiston, FL 33440	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date Mailed: 08/19/87 Permit: AC 50-137573 Bryant Mill Boiler No. 5	

PS Form 3800, June 1985 ☆ U.S.G.P.O. 1985-480-794

SENDER: Complete items 1, 2, 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☒ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:
A.R. Mayo, V.P.
U.S. Sugar Corporation
P.O. Drawer 1207
Clewiston, FL 33440

4. Type of Service:	Article Number
☐ Registered ☐ Insured ☒ Certified ☐ COD ☐ Express Mail	P 274 007 710

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X

6. Signature – Agent
X

7. Date of Delivery
8-21-87

8. Addressee's Address *(ONLY if requested and fee paid)*

PS Form 3811, July 1983 447-845 DOMESTIC RETURN RECEIPT

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

August 19, 1987

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. A. R. Mayo, Vice President
U.S. Sugar Corporation
P. O. Drawer 1207
Clewiston, Florida 33440

Dear Mr. Mayo:

Re: File No. AC 50-137573, Bryant Mill Boiler No. 5

The Department has made a preliminary review of your application for permit to increase the steam production of Bryant Mill Boiler No. 5. Before this application can be processed, we will need additional information.

Pursuant to Rules 17-2.200 and 17-2.520(3), FAC, the Department must have reasonable assurance that the proposed modification will not cause or contribute to any violation of ambient air quality standards. In the original PSD permit application (April 1978), modeling showed that the 24-hour particulate matter (PM) standard would be closely approached. Since that time, our estimate of PM background concentration in the area has increased, other nearby sources have increased their PM emissions, and you have proposed to expand your operating season. For these reasons, we will need a new PSD increment, ambient air quality standards analysis for PM and the additional information requested in order to properly evaluate and process the application.

1. In the original PSD permit application, the 24-hour PM Ambient Air Quality Standard (AAQS) analysis used a background concentration of 35 ug/m^3. This value should be revised upward to 40 ug/m^3 in order to reflect the current background concentration in the area as defined in recent permit applications.

2. The original AAQS modeling analysis included the Osceola Farms and the Sugar Cane Growers Cooperative facilities. Since that time the emission rates at these facilities have increased. Consequently, the new AAQS modeling analysis should include these sources at their current permitted emission rates.

3. The new AAQS analysis should include all days comprising the expanded operating season.

4. What is the estimated date the higher steam production (341,974 lbs/hr) will be achieved and the compliance tests conducted?

5. What is your best estimate of the earliest date the season will begin and the latest date the season will end? Will Boiler No. 5 operate during any period other than the normal sugar production season? What period will the boiler not operate?

6. What is the minimum pressure drop across the scrubber needed to comply with the emission standards? At what pressure drop has the scrubber operated during particulate matter compliance test?

7. How do you propose to prove compliance with the hourly, daily, and annual emission standards?

8. What are the "favorable bagasse conditions" mentioned in Attachment A that indicate the boiler can operate above its design capacity? How often and for how long do you anticipate these conditions will occur during a season?

9. Does the No. 5 boiler operate at a higher pressure or temperature than the 850 psig and 900°F listed in the application? If so, what are the other operation conditions?

U.S. Sugar needs to ask the U.S. EPA, Region IV, to modify the federal permit, PSD-FL-0009, that was originally issued to construct this boiler. By policy, EPA does not allow the Department to modify a federal permit that they issued.

We will resume processing the application after the requested information is received. If you have any questions on this

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

August 7, 1987

Mr. Wayne Aronson
Chief
Program Support Section
U.S. EPA, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Mr. Aronson:

RE: U.S. Sugar Corporation, Boiler No. 5
Modification to a Major Source
State Construction Number: AC 50-137573
Past PSD Number: PSD-FL-009

Enclosed for your review and comment is the modification packet for the above referenced company. EPA will be requested to modify the original federal PSD construction permit issued for this source. If you have any comments or questions, please contact Willard Hanks or Max Linn by August 29, 1987, at the above address or at (904)488-1344.

Sincerely,

Margaret V. Janes
Bureau of Air Quality
Management

/mj

cc: Willard Hanks
Max Linn
David Knowles, South Florida Dist.
Gene Sacco, Palm Beach County Health Department
Isidore Goldman, Southeast Florida Dist.

enclosures

matter, please write to me or call Max Linn (AAQS modeling) or Willard Hanks at (904)488-1344.

Sincerely,

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/WH/s

cc: D. Knowles
G. Sacco
W. Aronson