



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

State of Florida
Department of Environmental Protection
Notice of Permit

In the matter of an
Application for Permit by:
Mr. Murray Brinson, Vice President
United States Sugar Corporation
Post Office Drawer 1207
Clewiston, Florida 33440

DEP File No. AC 26-248809
PSD-FL-217
Hendry County

Enclosed is Permit Number AC 26-248809 (PSD-FL-217) for the construction (modification of the permit) of the existing No. 4 boiler which is fired with bagasse and No. 6 residual fuel oil. This boiler is located at your sugar mill in Clewiston, Hendry County, Florida. This permit is issued pursuant to Section 403, Florida Statutes.

Any party to this Order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by 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 14 days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

C. H. Fancy, P.E., Chief
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
904-488-1344

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed by certified mail before the close of business on 8-9-95 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to §120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk

8-9-95
Date

Copies furnished to:

David Knowles, SD
Jewell Harper, EPA
John Bunyak, NPS
David Buff, KBN
Robert Van Voorhees, Bryan Cave

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

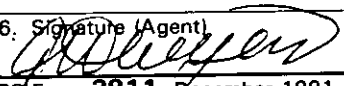
3. Article Addressed to:
 Murray Brunson, V.P.
 U.S. Sugar Corp.
 PO Drawer 1207
 Clewiston, FL 33440

4a. Article Number
 Z 392 979 020

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
 8-11-95

5. Signature (Addressee)

6. Signature (Agent)


8. Addressee's Address (Only if requested and fee is paid)

Thank you for using Return Receipt Service.

Z 392 979 020



Receipt for Certified Mail
 No Insurance Coverage Provided
 Do not use for International Mail
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PS Form 3800, March 1993

Sent to Murray Brunson	
Street and City U.S. Sugar Corp	
State and ZIP Code Clewiston, FL	
Postage	\$
Certified Fee	
Special Delivery Fee	
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Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	AC 26-948809 PSD-FI-317 8-9-95

Final Determination

United States Sugar Corporation
Hendry County
Clewiston, Florida

Boiler No. 4
Department Permit No. AC 26-248809
PSD-FL-217

Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation

July 27, 1995

Final Determination

U. S. Sugar Corporation
No. 4 Bagasse/No. 6 Residual Fuel Oil-Fired Boiler
Permit No. AC 26-248809 (PSD-FL-217)

A Technical Evaluation and Preliminary Determination, proposed Best Available Control Technology (BACT) determination, and draft construction permit for U. S. Sugar Corporation's existing Boiler No. 4 was distributed on February 9, 1995. The boiler is located at their sugar mill in Clewiston, Hendry County, Florida. The Notice of Intent to Issue was published in the legal section of the Clewiston News on March 1, 1995. Copies of the evaluation were available for public inspection at the Department's offices in Ft. Myers and Tallahassee.

The applicant's attorney submitted comments on the Department's Intent in a letter dated March 23, 1995. The comments addressed items in the Technical Evaluation and Preliminary determination, proposed BACT determination, and the draft permit. The Department's response to these comments follow.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

The source was described by the Department as a bagasse/fuel oil-fired boiler. The applicant requested the source be described as a bagasse/No. 6 residual fuel oil-fired boiler. The Department accepts the applicant's recommendation and has revised the description of the boiler.

The applicant noted that they originally requested a carbon monoxide (CO) emissions limit of 9.0 lbs/MMBtu, not the 6.5 lbs/MMBtu stated in evaluation. The Department agrees with this statement.

The applicant commented that it was the permit for Boiler No. 4 that was being modified, not the boiler itself as implied by the language used in the evaluation. This is correct. There are no physical or operational changes being made to the boiler. Only the allowable CO emission limit and test method are being changed by this permit.

The applicant requested that the Department's statement that the CO emissions vary with boiler operation be deleted from the determination. It is known from principles of combustion that higher excess air or oxygen is associated with lower carbon monoxide emissions. The Department does not know the precise correlation between fuels/boiler operation and CO emissions for the subject boiler. We expect to learn more about the variation in CO emissions

after reviewing the applicant's Operation Plan and future CO emissions report for tests conducted while employing Good Combustion Practice (GCP).

The applicant noted that other bagasse boilers have been given a BACT emission limit of 6.5 lbs CO/MMBtu. This statement is true. The Department has made BACT determinations for bagasse boilers, on a case-by-case basis, of 3.5 and 6.5 lbs/MMBtu. For this boiler, the Department has determined that BACT will be the CO emission limit that can be achieved while employing GCP, not to exceed 6.5 lbs/MMBtu.

The applicant requested the EPA directed stack height language on page 5 of the evaluation be deleted. The 1995 EPA-FDEP Workplan requires this or similar statement in all PSD new source review permits.

The applicant stated the 1-hour ambient air background concentration was 7,400 ug/m³, not the 7,800 ug/m³ listed in the determination. The Department reported the CO concentration of 7,790 ug/m³ from page 6-22 of the application as 7,800 ug/m³ in the determination.

BACT DETERMINATION

The applicant noted that they originally requested a CO emissions limit of 9.0 lbs/MMBtu even though they later agreed to accept a limit of 6.5 lbs/MMBtu. The BACT determination is reworded to state the applicant's original request. The Department adopted a CO limit for this boiler as that which can be met with GCP, not to exceed 6.5 lbs/MMBtu.

The applicant noted that the fuel oil burned by this boiler is No. 6 residual fuel oil. The Department agrees with this comment and has amended the BACT to note the type oil burned in this boiler.

The applicant asked that all annual emission limits be specified as tons per federal fiscal year (TPFFY) instead of tons per year (TPY). The Department will note that the TPY standards in this permit shall be on a calendar year basis because the Title V processing fees and Annual Operation Reports are based on a calendar year.

PERMIT NO. AC 26-248809 (PSD-FL-217)

Because of the delay in issuing the permit, the proposed expiration date is extended to June 1, 1996. The applicant requested that other correspondence related to the processing of this application be made an attachment to the permit. The Department accepts this recommendation and have referenced the other documents in the list of attachments.

The applicant requested several editing changes to the General Conditions in the permit to reflect the current language in Rule 62-4.160, F.A.C. The Department accepts this recommendation and has made these changes.

Specific Condition No. 2. The applicant requested that this condition be expanded to clarify the scrubber monitoring requirements. The Department accepts this recommendation and has amended this condition.

Specific Condition No. 3. The applicant requested that this condition be reworded to clarify the Department's intent on restriction of the No. 6 residual oil burned at this facility. The Department has made the changes requested.

Specific Condition No. 4. The applicant requested that the months boiler No. 4 may operate be deleted from this permit. This request is acceptable. The hours per year operation and tons per year emissions listed elsewhere in the permit have been retained.

Specific Condition No. 5. The applicant requested the limit on steam pressure and steam temperature be deleted from the permit, steam pressure be expressed in PSIG, and the permit note that heat input be based on the boiler having a thermal efficiency of 55 percent. The Department is clarifying the limits on steam pressure and temperature, which is from a previous permit for this boiler (Specific Condition No. 1 of Permit No. AC 26-126965), and accepting the request to add the pressure units and assumed boiler thermal efficiency to this condition.

Specific Condition No. 7. The applicant asked that this condition, which sets minimum pressure drop for the No. 4 boiler scrubber, be deleted. The Department is retaining this condition which is from a previous permit for this boiler (Specific Condition No. 17 of permit No. AC 26-126965).

Specific Condition No. 8. Basically, the same as above.

Specific Condition No. 9. The applicant requested that this condition be reworded to clarify the restrictions on No. 6 fuel oil consumption at this facility. This request is acceptable to the Department and this condition has been amended.

Specific Condition No. 11. Basically, the same as above.

Specific Condition No. 12. At the applicant's request, this condition was reworded to clarify restrictions on No. 6 residual fuel oil consumption at the facility. There was also a request to incorporate language similar to Rule 62-210.700, F.A.C., in this condition. The referenced rule addresses excess emissions, not fuel

consumption. Although Rule 62-210.700, F.A.C., applies to this boiler (and other units of air pollution), it was not incorporated in this condition.

Specific Condition No. 13. At the applicant's request, this condition was reworded to note that it applied only to No. 6 residual fuel oil consumed at this facility and added several analytical methods that may be used for the analysis of sulfur in the oil.

Specific Condition No. 14. The applicant requested that the annual emission limits be on a ton per federal fiscal year basis. As described earlier, the tons per year limit are to be met on a calendar year basis. The applicant requested that the compliance test procedures be listed in this condition. This condition is in the Emission Limitation Section of the permit. The Department is leaving the compliance tests procedures under the Testing and Reporting section of the permit.

Specific Condition No. 16. The applicant asked that the sulfur dioxide emission standard of 0.87 lbs/MMBtu be removed from the permit, the annual emission limit be based on the federal fiscal year, and the requirement to calculate the emissions for information purposes only using the F factor be deleted from the permit. The Department will remove the lbs/MMBtu sulfur dioxide emission limit from the permit. The standard was not expressed in this unit in previous permits for Boiler No. 4. The annual emission limits are based on a calendar year basis. The F factor emission calculations, from Specific Condition No. 9 of permit No. AC 26-126965, is retained until the report on its use prepared by U. S. Sugar Corporation's consultant is accepted by the Department.

Specific Condition No. 17. The applicant requested additional time to submit an updated Operation and Maintenance Plan on minimizing CO emissions from Boiler No. 4, that the requirement to test the boiler while employing GCP as a basis for revising the BACT be deleted, that Method 25A in conjunction with Method 18 be allowed to measure the VOC emissions, and that the compliance tests for CO and VOC be waived if visible emissions were less than 20 percent opacity. The Department will allow the additional time to update the Operation and Maintenance plan, the use of the combined test methods for VOC, waive the VOC test if visible emissions are less than 20 percent opacity, but retain the CO testing requirements while Boiler No. 4 is being operated with GCP. Annual CO tests are required thereafter.

Specific Condition No. 18. The applicant requested this condition be reworded to note what action may reduce fugitive emissions. This request is acceptable to the Department.

Specific Condition No. 19. The applicant requested the TPY NOx

standard be deleted from this condition and the compliance test be waived on approval of an Operation and Maintenance plan that optimizes NOx emissions. The Department has replaced this condition with Specific Condition No. 15 of permit No. AC 26-126965, a previous permit for this boiler, whose requirements are similar to those requested by the applicant.

Specific Condition No. 21. The applicant requested this condition listing the testing requirements be deleted and replaced with current requirements from previous permits. The Department is rewording this condition to retain the current testing requirements and the new CO emissions test requirements added as a condition of this modification. The testing requirements of this permit will be annual PM, CO, and visible emissions tests provided an acceptable Operation and Maintenance plan has been provided to the Department, visible emissions are less than 20 percent opacity, and emissions factors have been established for the other regulated pollutants per Specific Condition No. 16 of permit No. AC 26-126965.

Specific Condition No. 22. The applicant requested that this condition, which lists the reference test methods, be deleted because it is redundant. Previous comments were to add the test methods in the condition listing the emission standards. The Department is retaining this condition under the Testing and Reporting section of the permit.

Specific Condition No. 23. The applicant requested that this condition be reworded to address situations where the particulate matter and visible emissions tests cannot be performed concurrently. The Department has revised this condition to address this situation.

Specific Condition No. 24. The applicant requested this condition, which specified the particulate matter test method, be deleted because an earlier request had asked it be put in the condition with the particulate matter standard. The Department is retaining this condition under the Testing and Reporting section of the permit.

Specific Condition No. 25. The applicant requested an alternate schedule be allowed to determine the thermal efficiency of Boiler No. 4. This condition is modified to approve the request.

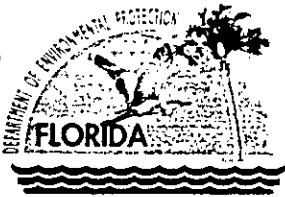
Specific Condition No. 26. The applicant requested that the 15 days notice prior to compliance testing not be required in writing. The Department is deleting the requirement that the notification be in writing but cautions the applicant that failure to notify the Department of the scheduled compliance test may be grounds to reject the test results.

Specific Condition No. 27. The applicant requested that annual reporting of fuel oil consumption be deleted. This request is

denied. Specific Condition No. 17 of Permit No. AC 26-126965 requires this data be reported annually.

The applicant also requested that the operation permit for Boiler No. 4 be issued prior to the expiration date of this construction permit. The Bureau of Air Regulations recommends the South District office issue the operation permit for this boiler after incorporating the conditions of this construction permit.

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



Department of Environmental Protection

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

Virginia B. Wetherell
Secretary

PERMITTEE:

Mr. Murray T. Brinson
Vice President of Sugar
Processing
U.S. Sugar Corporation
P. O. Drawer 1207
Clewiston, Florida 33440

APIS No: 52FTM26000309
Permit Number: AC26-248809/PSD-FL-217
Expiration Date: June 1, 1996
County: Hendry
Latitude/Longitude: 26°44'05"N
80°56'19"W
Project: Boiler No. 4 Modification

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4, 62-210, 62-212, 62-275, 62-296, and 62-297, Florida Administrative Code (F.A.C.). 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 specifically described as follows:

Authorization to increase allowable carbon monoxide (CO) emissions from the existing Foster Wheeler Boiler No. 4 located at U.S. Sugar Corporation's sugar mill. This mill is located near the intersection of W. C. Owens Avenue and Clewiston Street in Clewiston, Hendry County, Florida. The UTM coordinates of this site are zone 17, 506.1 km E and 2956.9 km N.

The modification shall be in accordance with the application (cover letter dated April 7, 1994), and the additional information submitted in the U.S. Sugar Corporation's letters dated June 27, 1994, and September 8, 1994, except for the changes mentioned in the Technical Evaluation and Preliminary Determination and listed as Specific Conditions in this permit to construct/modify.

Attachments are listed below:

1. U.S. Sugar Corporation's application received April 8, 1994.
2. DEP's letter dated April 26, 1994.
3. U.S. Sugar Corporation's letter dated June 27, 1994.
4. DEP's letter dated July 19, 1994.
5. KBN's letter dated August 31, 1994.
6. U.S. Sugar Corporation's letter dated September 8, 1994.
7. U.S. Sugar's 90-day time limit waiver, dated November 30, 1994.
8. DEP's letter dated December 6, 1994.
9. KBN's letter dated December 8, 1994.
10. U.S. Sugar's 90-day time limit waiver, dated January 9, 1995.
11. KBN's letter dated January 11, 1995.
12. Bryan Cave's letter dated March 23, 1995.

PERMITTEE:
U.S. Sugar Corporation

Permit Number: AC26-248809/PSD-FL-217
Expiration Date: June 1, 1996

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of F.S. and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and 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

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GENERAL CONDITIONS:

credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and,
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

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

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. A description of and cause of non-compliance; and,
- b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

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

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

10. The permittee agrees to comply with changes in Department rules and F.S. after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by F.S. or Department rules.

PERMITTEE:
U.S. Sugar Corporation

Permit Number: AC26-248809/PSD-FL-217
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GENERAL CONDITIONS:

11. This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

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

14. The permittee shall comply with the following:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
- b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
- c. Records of monitoring information shall include:
 - the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the dates analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used;
 - the results of such analyses.

PERMITTEE:
U.S. Sugar Corporation

Permit Number: AC26-248809/PSD-FL-217
Expiration Date: June 1, 1996

SPECIFIC CONDITIONS:

Equipment Specification

1. Stack sampling facilities for Boiler No. 4 shall be in accordance with the requirements of Rule 62-297.345, F.A.C.
2. The scrubber control system for Boiler No. 4 shall be equipped with an instrument to measure the gas pressure drop.
3. All boilers at the plant that burn No. 6 residual fuel oil shall be equipped with integrated fuel oil flow meters or continuous recorders to measure the amount of No. 6 residual fuel oil consumed by the boilers. Boiler No. 4 shall not have more than two burners with two oil guns each (total of four oil guns). The maximum capacity of all four fuel oil guns shall not exceed the permitted fuel oil input rate.

Operation Limitations

4. Boiler No. 4 is limited to 160 days (3840 hrs/yr) operation per season.
5. Steam production, steam pressure, steam temperature, heat input, and bagasse consumption shall not exceed the following:

Steam** press.	Steam** temp. °F	Avg. time	Steam Prod. lbs/hr	Heat input* 10 ⁶ Btu/hr	Bagasse Consum. lbs/hr-wet
850 PSIG	900	Max.	346,231	777.2	215,889
		6-hr avg	314,757	706.6	196,264
600 PSIG	750	Max.	368,500	777.2	215,889
		6-hr avg	335,000	706.6	196,264

*Based upon 55% thermal efficiency while burning bagasse.

**1-hour average

6. Readings shall be taken and logged every 8 hours of the scrubber pressure drop and every 24 hours for the pH of the scrubber water for each day during which bagasse is burned in Boiler No. 4. During compliance testing, the scrubber parameters shall be measured and recorded at 15 minute intervals. These records shall be available for regulatory inspection for 5 years.

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SPECIFIC CONDITIONS:

7. The scrubber shall be operated at a pressure drop that is 90% or more of the average pressure drop that existed during a particulate matter test that demonstrated compliance.

8. The scrubber shall in no case be operated with a pressure drop less than 75% of the pressure drop that was determined concurrently with a stack test that demonstrated compliance for particulate matter.

9. The heat input from No. 6 residual fuel oil shall not exceed 225 million Btu per hour, which is approximately equivalent to 1,500 gallons per hour of No. 6 residual fuel oil. Fuel oil meter readings on boilers 1, 2, 3 and 4 shall be read and logged at least once every three hours, unless fuel oil consumption for these boilers 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.

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

11. During any 24-hour period, not more than 40,800 gallons of No. 6 residual fuel oil shall be burned in boilers 1, 2, 3 and 4 at the plant.

12. During any 3-hour period, not more than 6,300 gallons of No. 6 residual fuel oil shall be burned in boilers 1, 2, 3 and 4 at the plant.

13. No. 6 residual fuel oil burned by this boiler will be replaced in the fuel oil storage tank with an equal amount of No. 6 residual fuel oil containing no more than 1.50 percent sulfur by weight. Compliance with this condition shall be determined from certified analysis of the replacement No. 6 residual fuel oil by ASTM Method D-129, D-1552, D-2622, or D-4294. Records of the quantity and analysis of No. 6 residual fuel oil consumed in Boiler No. 4 and invoices for the No. 6 residual fuel oil purchased shall be kept for a minimum of five years for regulatory agency inspection.

Emission Limitation

14. Particulate matter (PM) emissions from Boiler No. 4 shall not exceed 0.150 pounds per million Btu heat input (lbs/MMBtu) for

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SPECIFIC CONDITIONS:

bagasse fuel or 0.10 lbs/MMBtu for No. 6 residual fuel oil. **Maximum PM emissions shall not exceed 116.6 lbs/hr and 223.8 tons during any calendar year.** In the event that both fuels are burned concurrently, the allowable PM emissions shall be prorated from the allowable standards for each fuel by their respective heat inputs. Compliance test procedures are listed in Specific Condition No. 24.

15. Visible emissions (VE) from Boiler No. 4 shall not exceed 20 percent opacity except for one two-minute period per hour during which the opacity shall not exceed 40 percent pursuant to Rule 62-296.405(1)(a), F.A.C. Compliance with the standard shall be determined by the EPA Method 9 as described in 40 CFR 60, Appendix A.

16. Sulfur dioxide emissions from Boiler No. 4, while burning a mixture of No. 6 residual fuel oil and bagasse, shall not exceed 680 lbs/hr. Sulfur dioxide emissions from Boiler No. 4, while burning 100 percent bagasse fuel, shall not exceed 0.166 lbs/MMBtu **and 129.0 lbs/hr. Total sulfur dioxide emissions from Boiler No. 4 during any calendar year shall not exceed 340 tons.** Sulfur dioxide emissions shall be determined by EPA Method 6 or 6C 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.

17. 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's Bureau of Air Regulation (BAR). The permittee shall update and resubmit the Operation and Maintenance plan for Boiler No. 4 with detailed information on minimizing carbon monoxide emissions prior to June 1, 1996. The Department will incorporate the plan into the air operation permit for this facility. Emissions of carbon monoxide (1-hour average) shall be minimized through Good Combustion Practice (GCP) and shall not exceed **6.5 lbs/MMBtu, 5,052 lbs/hr, and 8,818 tons** during any calendar year, (based on a 6-hr average of 706.6 MMBtu/hr heat input). During the 1995-1996 sugar cane season, the permittee shall conduct a minimum of three tests for CO on this unit using EPA Method 10 (Rule 62-297.401(10), F.A.C.), while employing GCP as described in the Operation and Maintenance plan. The Department may revise the carbon monoxide emission standard and the permit if the tests show lower carbon monoxide emissions can be achieved by this boiler. Emissions of volatile organic compounds shall not exceed 1.7 lbs/ton of wet bagasse as determined by EPA Method 25 or 25A in conjunction with EPA Method 18. These test methods are described in 40 CFR 60, Appendix A. Compliance tests for VOC will not be required if the

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U.S. Sugar Corporation

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SPECIFIC CONDITIONS:

visible emissions from Boiler No. 4 are below 20 percent opacity and acceptable emission factors have been established for this pollutant.

18. Pursuant to Rule 62-296.310(3), F.A.C., the permittee shall not cause, let, permit, suffer or allow the emissions of unconfined particulate matter from the bagasse storage and handling system without taking reasonable precautions to prevent such emissions. These precautions may include, but shall not be limited to the following: paving and maintenance of roads, parking areas and yards; application of water or chemicals to control unconfined emissions; application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar sources; removal of particulate matter from roads and other paved areas under the control of the permittee to prevent reentrainment, and from buildings or work areas to prevent particulate matter from becoming airborne; landscaping or planting of vegetation; use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter; and, enclosure or covering of conveyer systems.

19. Nitrogen oxides emissions, expressed as NO₂, shall not exceed 192.4 lbs/hr (maximum) as determined by EPA Reference Method 7 or 7E in accordance with 40 CFR 60, Appendix A. After the initial compliance test, the company may substitute an Operation and Maintenance plan that optimizes nitrogen oxide emissions for the compliance tests specified in this specific condition if the initial Method 7 or 7E test shows compliance.

20. All references to the 40 CFR 60 requirements are of the July 1, 1993 version.

Testing and Reporting

21. Compliance tests for all emission standards listed in Specific Conditions Nos. 14, 15, and 17 for Boiler No. 4 shall be conducted once each Federal fiscal year and reported to the Department's South District office within 45 days of completion of the last test run. During the 1995-1996 sugar cane season, the permittee shall make a minimum of three tests for carbon monoxide on Boiler No. 4 using EPA Method 10 (Rule 62-297.401(10), F.A.C.) while employing Good Combustion Practices as described in the Operation and Maintenance plan. The Department shall revise the carbon monoxide emission standard and this permit if the tests show lower carbon monoxide emissions can be achieved by this boiler.

PERMITTEE:
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Expiration Date: June 1, 1996

SPECIFIC CONDITIONS:

22. Compliance with the emission standards shall be based on EPA Reference Methods 5, 6, 6C, 7, 7E, 9, 10, and 25 or 25A in conjunction with 18 as described in 40 CFR 60, Appendix A.

23. As a condition of this permit, PM emissions and visible emissions tests shall be conducted concurrently on the boiler. Under circumstances when this is not feasible, the company shall obtain 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.

24. Compliance with the PM 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. For informational purposes only, the particulate matter emissions 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) unless the permittee has provided a report demonstrating that an "F" factor is not valid for a bagasse boiler.

25. A test shall be conducted 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 conducted while the tubes are clean and within 14 days of the compliance test unless an alternative schedule is approved by the Department. A current report on the thermal efficiency test must be included with the application to operate this boiler.

26. The South District office and, for the 1995-1996 sugar cane season, the Bureau of Air Regulation, shall be notified as least 15 days in advance of any emission test required by this permit. Testing of emissions shall be conducted with the emission unit operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then emission units may be tested at less than 90 percent of the maximum operating rate allowed by the permit. In this case, subsequent emission unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emission unit is so limited, then operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity in the permit.

27. An annual operation report shall be submitted to the Department's South District office by March 1 of each year pursuant to Rule 62-210.370(2), F.A.C. The report shall include the amount

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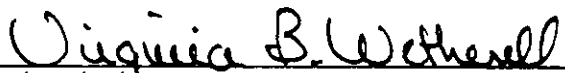
SPECIFIC CONDITIONS:

of No. 6 residual fuel oil burned by each emission unit at the plant in order to determine compliance with the limits on fuel oil usage in this permit, the sulfur content of the residual fuel oil purchased for the season, and a summary of the scrubber parameters listed in Specific Condition No. 2.

28. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation prior to 60 days before the expiration of the permit (Rule 62-4.090, F.A.C.).

29. A timely application for a Title V operation permit must be submitted to the Department's South District Office by the date required in Rule 62-213.420, F.A.C.

**STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION**


Virginia B. Wetherell, Secretary
Department of Environmental
Protection

ATTACHMENTS AVAILABLE UPON REQUEST

Best Available Control Technology (BACT) Determination
United States Sugar Corporation
Clewiston Mill Boiler No. 4

AC 26-248809
PSD-FL-217

The United States Sugar Corporation (USSC) requested the carbon monoxide (CO) emission limit for Boiler No. 4 at the existing sugar mill in Clewiston, Hendry County, Florida, be increased from 0.25 lbs CO/MMBtu heat input to 9.0 lbs CO/MMBtu heat input. The emission limit adopted by the Department is based on actual EPA Method 10 test data on Boiler No. 4. The increase in allowable emission is not associated with any change in production or operation of the boiler. The emissions of all other air pollutants are not affected by this request.

The higher allowable emission rate requested will result in an increase in CO emissions above the significant emission rate of 100 TPY. This subjects the facility to the Prevention of Significant Deterioration (PSD) new source review regulations. These regulations require a BACT determination to be made for CO for the boiler.

Date of Receipt of a BACT Application:

June 29, 1994

Date Application Complete

September 8, 1994

BACT Requested by the Applicant:

The BACT determination requested by the applicant is summarized below:

Carbon Monoxide (CO): The requested emission limit is 9.0 lbs CO/MMBtu heat input. For the 706.6 MMBtu/hr bagasse/No. 6 residual fuel oil-fired boiler, this will result in 6,359 lbs CO/hr emissions. The heat input and CO emissions are 6-hour averages (permit No. AC 26-126965). For a 3,840 hour per year operation, this is equivalent to 12,209 tons CO emissions during a federal fiscal year. The CO emission limit of 9.0 lbs/MMBtu is to be achieved by Good Combustion Practice (GCP) of the boiler. Compliance is to be determined using EPA Reference Method 10 as described in 40 CFR 60, Appendix A.

BACT Determination Procedure:

In accordance with Rule 62-212.410, Florida Administrative Code, Best Available Control Technology Determination, Stationary Source-Preconstruction Review, this BACT determination is based on

the maximum degree of reduction of each pollutant emitted which the Department of Environmental Protection (Department), on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that in making the BACT determination the Department shall give consideration to:

- (a) Any Environmental Protection Agency determination of BACT pursuant to 40 CFR 52.21, and any emission limitation contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants).
- (b) All scientific, engineering, and technical material and other information available to the Department.
- (c) The emission limiting standards or BACT determinations of any other state.
- (d) The social and economic impact of the application of such technology.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine for the emission unit in question the most stringent control available for a similar or identical emission unit or emission unit category. If it is shown that this level of control is technically or economically infeasible for the emission unit in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.

BACT Determined by the Department:

Carbon monoxide emissions from Boiler No. 4 shall be minimized through GCP. Until the minimum emission rate is established, carbon monoxide emissions shall not exceed 6.5 lbs/MMBtu and, based on a maximum allowable heat input of 777.2 MMBtu/hr, 5,052 lbs/hr, 1-hr max.. Carbon monoxide emissions during any consecutive 12-month period shall not exceed 8,818 tons (based on a maximum allowable 6-hr average of 706.6 MMBtu/hr heat input and 3840 hrs/yr operation). Compliance shall be determined using EPA Reference Method 10 as described in 40 CFR 60, Appendix A. These emission limits shall be achieved through GCP of the boiler.

BACT Determination Rationale:

The applicant submitted information indicating the high CO emissions from this boiler are due to the short residence time of the combustion gases in the furnace area. Based on limited emission data, they concluded that CO emissions averaged 6.7 lbs/MMBtu. The Department's proposed limit, not to exceed 6.5 lbs/MMBtu, is to be achieved through GCP.

The applicant investigated retrofitting a new bagasse feed/air distribution system (at the Department's request), retrofitting a flue gas recirculation system (FGR), use of a CO oxidation system, and drying the bagasse prior to burning (at the Department's request).

Boiler vendors stated that no decrease in CO emissions would be achieved through the use of a new feed/air distribution system. The high CO level for this boiler was due to the low residence time of the flue gases in the boiler. Higher residence times would allow for more complete combustion. Newer boilers have up to twice the volume of this existing boiler.

Retrofitting a flue gas recirculation (FGR) system to the existing boiler would be difficult and expensive (\$1,400,000 capital cost + \$1,000,000 annual operation cost). The CO reduction by a FGR system was unknown and potentially no reduction would be achieved. No bagasse boiler in Florida is using FGR.

Oxidation catalyst systems require elevated temperatures and low particulate matter loading. This boiler's flue gas temperature is too low and the particulate matter loading is too high to use an oxidation catalyst. No bagasse boiler in Florida uses an oxidation catalyst system.

Drying the bagasse prior to burning was considered unproven technology. No data was available to show a CO reduction from this approach.

The newer bagasse boilers with larger furnaces have lower CO emission rates. Expanding the volume of the existing boiler is not considered feasible. Through elimination of add-on controls, the Department is left with GCP as BACT to control CO from this existing boiler.

The Department believes that if this boiler is operated properly, it should be able to meet the CO limit given to similar boilers in the sugar industry. The BACT determination for Boiler No. 4 is

established as GCP with emissions not to exceed 6.5 lbs CO/MMBtu. The Department has no information to suggest that this boiler is designed significantly differently from the other bagasse boilers that were given this standard.

Conclusion

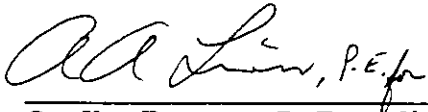
By employing Good Combustion Practice and meeting a carbon monoxide limitation of 6.5 lbs/MMBtu (or lower), the requirements of Best Available Control Technology and Prevention of Significant Deterioration will be met by the existing boiler.

Details of the Analysis May be Obtained by Contacting:

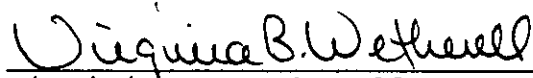
A. A. Linero, P.E., Administrator
Willard Hanks, Review Engineer
Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Recommended by:

Approved by:



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



Virginia B. Wetherell, Secretary
Dept. of Environmental Protection

7/27, 1995
Date

8-7, 1995
Date

Florida Department of
Environmental Protection

Memorandum

TO: Virginia Wetherell
THROUGH: *g* ✓ Dan Thompson *Kyle B. Buntz*
FROM: Howard L. Rhodes *HR*
DATE: July 28, 1995
SUBJECT: U.S. Sugar Corporation Boiler No. 4

Attached for your signature is a reissuance of the Best Available Control Technology Determination and air construction permit for U.S. Sugar Corporation Boiler No. 4 in Clewiston.

Reissuance of documents for this existing boiler became necessary following a requirement to use a much more sensitive carbon monoxide detection method.

Emissions of carbon monoxide will be minimized by employment of Good Combustion Practice (such as high excess air) rather than expensive add-on controls at this existing boiler. No violations of ambient air quality standards will occur. There were no adverse responses during the public notice period.

I recommend your approval and signature.

HLR/AL/t

attachments