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BUREAU OF AIR REGULATION

May 6, 1996

Mr. A. A. Linero, P.E.
Administrator, New Source Review Section
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Fl 32399-2400

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Re: U. S. Sugar Corporation
Clewiston Boiler No. 4
DEP File No. AC26-248809; PSD-FL-217

Dear Mr. Linero:

The purpose of this letter is to respond to the Department's letter to U.S. Sugar dated January 31, 1996 (attached), regarding the above referenced source and to supplement the updated Operation & Maintenance (O&M) Plan, dated January 16, 1996, that DEP has concluded is acceptable for the operation of the scrubber and the control of particulate matter (PM) emissions. In its letter, the Department requested that the source-specific Operation and Maintenance plan for Boiler 4 to be expanded in the area of carbon monoxide (CO) and volatile organic compounds (VOC) control while taking advantage of existing instruments and operation practices. The Department requests that the plan specify what parameters will be monitored, the operational ranges of these parameters, and the circumstances when it may be necessary to depart from these ranges. Specifying these parameters will provide reasonable assurance that Good Combustion Practices (GCP) are being employed.

In order to respond to the Department's request, KBN conducted an on-site survey and review of Boiler No. 4 to identify the existing instruments and operation practices being employed. The following parameters were identified as presently being measured on Boiler No. 4:

- Steam rate
- Steam pressure
- Steam temperature
- Air flow (as a percent of maximum air flow)
- Scrubber pressure drop
- Scrubber water flow rate
- Scrubber pH
- Visible emission (by means of television camera and video monitor)

Based on discussions with the boiler operator at U. S. Sugar, GCP for Boiler No. 4 is implemented according to the following existing operating practices:

1. Maintain steam rate at desired rate by controlling feed of bagasse fuel into the boiler.
2. The boiler operator relies on the TV camera and monitor to visually confirm that good combustion is taking place. Although this is a subjective judgement, operator experience results in a very consistent

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means of determining combustion conditions. If poor combustion conditions occur, it is reflected in the visible plume from the boiler. Under such conditions, the visible plume becomes darker than normal. If an abnormal plume is observed, the operator immediately takes corrective action to remedy the situation. Possible corrective actions include reducing fuel feed to the boiler.

Other than steam rate and the visible opacity of the plume, none of the parameters currently monitored for Boiler No. 4 relate directly to combustion. Therefore, based on the existing instrumentation and boiler operation, the following practices are proposed to provide reasonable assurance that GCP are being employed on Boiler No. 4:

1. The boiler operator will maintain steam rate at optimal or desired rate by controlling feed of bagasse fuel into the boiler. Combustion air to the boiler will be maintained at the highest possible level (resulting in the highest possible excess air) in order to promote good combustion.
2. The boiler operator will periodically (at least once per hour) view the stack video monitor to visually confirm that good combustion is taking place. If an abnormal plume is observed, the operator will immediately take corrective action. The boiler operator will log the occurrence and duration of all such events into the boiler operation log, along with the corrective action taken. These records will be kept for a period of at least two years.

I have included a revised O&M plan which incorporates appropriate wording to implement the proposed measures. U.S. Sugar will implement these additional O&M measures for VOC and CO emission upon approval by the Department. If you have any comments or questions concerning this information, or the proposed measures to expand the updated O&M Plan in the areas of CO and VOC control, please call or write.

Sincerely,

David A. Buff

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

DB/mk

Enclosures

cc: Murray Brinson
Don Griffin
Lisa Gefen
Peter Oppenheimer
David Knowles
File (2)

*cc: Hanks, BAR
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SEAL

UNITED STATES SUGAR CORPORATION
CLEWISTON MILL
OPERATION AND MAINTENANCE GUIDELINES
FOR
BOILER NO. 4 AND EMISSIONS CONTROLS
(Revised May 1996)

PREPARATION FOR OPERATIONS

1. Prior to each harvest season, the boiler proper, its air duct work, air heaters and scrubber are properly cleaned, inspected and repaired.
2. All refractory and boiler casing will be inspected and repaired where needed.
3. Outside of boiler tubes will have loose scale removed and boiler will be cleaned of loose scale, sand and other debris.
4. Boiler grates will be inspected and cleaned as well as being checked for mechanical operation.
5. All fans and fan drives will be inspected and repaired as needed.
6. All pumps and pump drives will be inspected and repaired as needed.
7. All oil burners will be cleaned and inspected as well as related oil piping, atomizing steam and air registers.
8. Prior to each harvest season, the skirt level of the scrubber is identified and marked on the outside so that a permanent reference is available.
9. Operational sight glasses are maintained on the scrubber so accurate water level readings can be obtained at all times to ensure that the water level is maintained at the level necessary to allow optimum scrubber efficiency.
10. Prior to each harvest season, all instruments for boiler operation and control are inspected, repaired and calibrated as required. This is recorded by the instrument shop in its repair log.

BOILER OPERATION AND CONTROLS

This manual is to be used as a maintenance and operations log for the boiler and scrubber for the purpose of monitoring and periodically recording certain specific parameters as set forth by the Florida Department of Environmental Protection in Permit No. AC26-248809/PSD-FL-217 and in these operation and maintenance guidelines.

The senior most experienced boiler supervisor instructs other boiler room supervisors, boiler operators, and other appropriate personnel in proper boiler and scrubber operations so as to minimize stack emissions, including carbon monoxide (CO), particulate matter (PM), nitrogen oxides (NO₂), sulfur dioxide (SO₂) and volatile organic compounds (VOCs). This instructional program is presented prior to each harvest season and is included in the orientation and training provided to new boiler room employees. The training will impress upon supervisors and operators the importance of proper boiler operation in order to minimize emissions.

SCRUBBER (PARTICULATE CONTROL)

The boiler is equipped with one Joy-type turbulaire water impingement scrubber with water spray nozzles operating in an internal atmosphere of negative draft gas flow. The normal operating control parameters for the scrubber should be maintained and the pressure drop should be operated at 90% or above (and not less than 75%) of that used in the most recent compliance test for particulate matter emissions.

1. The static pressure drop of the scrubber is monitored in inches of water, using provided manometers, and is logged once per shift (every 8 hours). Readings are also reported on the appropriate daily report, which is signed and filed in the superintendents office. (All instruments are checked and cleaned before readings are taken, and any problems are reported to the supervisor and corrected.)
2. The scrubber is equipped with quick disconnect couplings on the nozzles.
 - A. All scrubber nozzles are visually checked for plugging and the water flow is verified once per week.
 - B. Any plugged or defective nozzles are cleaned or replaced within 24 hours of discovery.
 - C. Nozzle conditions, (plugged, clean or replaced) and time of inspection are logged by location.
3. The scrubber has a primary and a secondary water pumping system. Both systems are monitored at least once per day and any unusual findings are logged and problems are corrected.
4. Scrubber water supply strainers are backwashed twice per shift and the time and any observations are logged.

5. Once per shift, near mid-shift, scrubber water supply requirements are verified, and the scrubber water supply pressure and flow are recorded in a log book which is kept in the Boiler Room Office.
6. All scrubber equipment (water control instruments, circulating pumps, monitoring gauges, piping and valves, etc.) are properly maintained and inspected each shift. Times, dates and any unusual observations are logged.
7. The "pH" level of the scrubber discharge effluent is checked twice per shift by the water plant operator. Findings are recorded on the daily report and filed on a daily basis.
8. Records of the scrubber pressure drop readings and of the "pH" measurement of the scrubber discharge effluent will be retained for 5 years.

CO AND VOC CONTROLS

CO emissions are to be minimized by the proper application of Good Combustion Practices (GCP). To provide reasonable assurance that GCP are being employed:

- A. The boiler operator will maintain steam rate at optimal or desired rate by controlling feed of bagasse fuel into the boiler. Combustion air to the boiler will be maintained at the highest possible level (resulting in the highest possible excess air) in order to promote good combustion.
- B. The boiler operator will periodically (at least once per hour) view the stack video monitor to visually confirm that good combustion is taking place. (Individual stack plumes are monitored continuously through a closed circuit television system.) If an abnormal plume is observed, the operator will immediately take corrective action. The boiler operator will log the occurrence and duration of all such events in the boiler operation log, along with the corrective action taken. These records will be kept for a period of at least two years.
- C. Bagasse moisture content will be maintained at or below 55%.

MISCELLANEOUS

1. Several times per shift, the boiler grates and feeders are examined for proper distribution and any necessary operational changes are made. Any unusual observations are logged once per shift.
2. Once per day, on the day shift, the boiler will be given a walk-around inspection with the following items being checked and repaired as needed and in coordination with the production schedule.
 - A. Fans
 - B. Pumps
 - C. Casing

- D. Ducting
 - E. Scrubber
3. On every shift burners are inspected and cleaned if dirty.
 4. On every shift, precautions will be taken as necessary to control visible emissions of fugitive matter (dust and bagasse, etc.)
 5. Boiler stack emissions compliance testing is conducted once per harvest season and is to be completed prior to March 1.

REVISED 5/96

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April 5, 1996

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BUREAU OF
AIR REGULATION

BY FEDERAL EXPRESS

Mr. A. A. Linero, P.E.
Administrator
New Source Review Section
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 33440

**Re: DEP File No. AC26-248809/PSD-FL-217
PSD Construction Permit Modification
Clewiston Boiler No. 4
United States Sugar Corporation**

Dear Mr. Linero:

This letter addresses all outstanding issues pertaining to the proposed PSD permit modification for U.S. Sugar Corporation's Clewiston Boiler No. 4 and provides information necessary for the Department to issue the final permit modification.

As requested by the Department in its letter of October 26, 1995, U.S. Sugar conducted an SO₂ impact assessment to determine the optimum quantity of No. 6 fuel oil that could be burned at the Clewiston Mill without causing or contributing to a violation of the 3-hour and 24-hour ambient air quality standards. As a result of the impact assessment prepared by KBN Engineering and Applied Sciences, Inc. (copy enclosed), U.S. Sugar proposes to increase the facility-wide No. 6 fuel oil burning rates at the Clewiston Mill to 16,200 gallons for any 3-hour period and 88,800 gallons for any 24-hour period. We also request that the Department modify the operation permits for Clewiston Boilers Nos. 1, 2, and 3 to make clear that these increased fuel oil burning rates apply facility-wide.

We understand that the final BACT CO emissions limit of 6.5 lbs/MMBtu will not be subject to revision based on future testing, as currently required by specific conditions 17 and 21. In a telephone conversation with Peter Oppenheimer on November 6, 1995, Jefferson W. Braswell of the Department's Office of General Counsel stated that the Department had accepted 6.5 lbs/MMBtu as

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Mr. A. A. Linero
April 6, 1996
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a final BACT CO limit. We request that specific conditions 17 and 21 be modified accordingly as stated in attachment A to KBN's letter of October 19, 1995 (copy enclosed).

Although the Department stated in its letter of October 26, 1995 that the fuel burning rate is a separate issue from excess emissions, we retain our view that Rule 62-200.710, F.A.C. applies to the fuel consumption limit contained in specific condition 12.

Two further housekeeping matters: First, U.S. Sugar has decided to increase the stack heights for Boiler Nos. 1, 2, and 3 to 165 feet, 15 feet higher than the minimum height required by specific condition 4 of the construction permit for Clewiston Boiler No. 7. As a result, stack heights of 165 feet were used for the modeling analysis in the SO₂ impact assessment. Second, the construction permit modification for Boiler No. 4 expires on June 1, 1996. To avoid issuance of a non-Title V operation permit during the period between June 1, 1996 and the Title V permit application deadline of June 15, 1996, we request that the expiration date of the construction permit modification be extended to August 15, 1996 in accordance with DEP's Memorandum of May 24, 1995 entitled "Guidance for Extending the Expiration Date of Construction Permits for Title V Sources" (DARM-PER/V-08).

We trust you agree that this letter resolves all outstanding issues, and we look forward to the expeditious issuance of a final PSD construction permit modification for Clewiston Boiler No. 4. If you have any questions or need additional information, please do not hesitate to call me.

Sincerely,



Robert F. Van Voorhees

Enclosures

cc: Jeff Braswell, DEP OGC (w/o enclosure)
David Knowles, DEP South District
Lisa Gefen, U.S. Sugar (w/o enclosure)
Peter Briggs, U.S. Sugar (w/o enclosure)
Don Griffin, U.S. Sugar
David Buff, KBN (w/o enclosure)

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cc: EPA
NPS