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 U.S. Sugar Corp
 111 Ponce DeLeon Ave
 Clewiston, FL 33440

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051003-009-AC PSD-FI-272	

PS Form 3800, April 1995



Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

August 18, 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Murray T. Brinson, Vice President
United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, FL 33440

Re: Request for Additional Information No. 2
DEP File No. 051003-009-AC (PSD-FL-272)
Increased Operation of Boiler No. 4 and Refinery Expansion

Dear Mr. Brinson:

On August 4, 1999, the Department received additional information for the above referenced project in response to our request. Several of these questions require further clarification and the application remains incomplete. In order to continue processing your application, the Department will need the additional information requested below. Should your response to any of the below items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form. The original numbers identify the following remaining questions.

4. The initial response did not address the issue of costs. As previously requested, please provide a cost effectiveness analysis for fuel oil containing lower sulfur contents, such as 0.05%, 0.5%, 1.0%, and 1.5% sulfur by weight, or some similar breakdown. For example, No. 4 fuel oil, identified as a light residual oil, may contain as little as 0.4% sulfur by weight. If the use of a very low sulfur fuel would require replacement of the burners, combustion air system, fuel storage, or controls, include this in the cost estimate for that type of fuel. In addition, evaluate potential reductions in sulfur dioxide emissions that may be obtained by lowering the overall sulfur content of fuel oil fired in the common fuel storage system shared with the other bagasse boilers. This alternative should be ranked in order of effectiveness with other methods providing a top-down control analysis. The purpose of this question is to accurately define the "best available control technology" for reducing the proposed increase in SO₂ emissions of nearly 350 tons per year.
5. The initial response indicates that there are no methods of regularly verifying SO₂ removal efficiencies, but does identify that wet scrubbing in an alkaline environment may provide substantial SO₂ removal. Please explain why maintaining the scrubber water at a given pH could not be an effective method of further controlling SO₂ emissions by the same mechanism. If this method is technically feasible, it should be included in the top-down analysis previously requested. Please evaluate this option as a potential control option that may be available for reducing the proposed increase in SO₂ emissions of nearly 350 tons per year.
10. The initial response verifies that the permittee measures and records the pH of the scrubber water discharge, but does not know why. Again, what is the typical pH range? Please speculate as to how the pH of the scrubber water could be adequately monitored and maintained to ensure the assumed

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SO₂ removal efficiencies? Have SO₂ stack tests been performed for bagasse boilers to quantify the potential control effectiveness of maintaining or perhaps enhancing an alkaline scrubbing media? What were the results of these tests? Does stack test information for this boiler exist suggesting a lower, achievable BACT emissions limit that could be verified by testing? As requested above, please evaluate this option as a potential control option that may be available for reducing the proposed increase in SO₂ emissions of nearly 350 tons per year.

12. For the existing boiler wet scrubber, identify the optimum range of operation for the scrubber pressure drop in inches of water. This range should reflect the minimum pressure differential above which would be an indicator of effective operation as well as the maximum level that would indicate other problems and the need for investigation by the operator. In addition, identify the scrubber flow rate (gpm) that would correspond to the pressure drop range and aid in minimizing particulate matter emissions. These should be known parameters defined by the original equipment manufacturer and the long history of operation for this boiler. Provide a cost estimate for an automatic control system that would maintain the desired scrubber liquid level and pressure drop.
13. What is the optimum range for the exhaust gas oxygen concentration that indicates adequate excess air is being supplied to the combustion process? In other words, what is the parametric range below which would be an indicator of insufficient oxygen for complete combustion, but above which would provide no additional benefit? This should be a known parameter defined by the original equipment manufacturer and the long history of operation for this boiler (stack test data). An oxygen and/or carbon monoxide monitor could be used to as feedback to the operator in order to adjust air and fuel rates in an effort to reduce emissions. A CO monitor could provide valuable historical data on emissions and operation that could be used in developing a plan for "good combustion practices". An automatic control system could be installed to automate boiler operation. Could combinations of these options be used to update previous "good combustion practices"? Are add-on controls such as an oxidation catalyst feasible for a bagasse boiler. Please evaluate these options for the potential to lower CO and/or VOC emissions limits and reduce the proposed increases in CO emissions of nearly over 4000 tons per year and VOC emissions of nearly 2000 tons per year.
16. The initial response requested consideration of raising the limit on the fuel oil sulfur content from 0.03% to 0.05% by weight. The Department will consider this request in combination with lowering the sulfur content of the fuel oil in the common storage tank shared with the other boilers. The response also requested replacing the requirement to stack test the Granular Carbon Regeneration Furnace (GCRF) for SO₂ with a requirement to document the fuel sulfur content. The Department will consider this request. Please submit a summary of the tested SO₂ emissions for the GRCF.

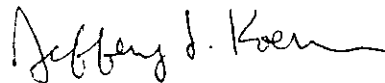
As part of this modification, the Department will require VOC and PM testing to verify the manufacturer's stated control efficiencies of 92% and 98%, respectively. Again, please identify critical parameters to be monitored on the GRCF, afterburner, and wet venturi scrubbing system that will minimize emissions.

21. The use of the ISC Prime model MUST be approved by the EPA before this application will be deemed complete, otherwise it may be necessary to re-model using an appropriate EPA-approved model. It is the Department's understanding that this approval may be made by the EPA Region 4 Administrator. We also understand the EPA Region 4 contact to be Stan Krivo.
22. The Department previously forwarded comments and questions from the NPS regarding the BACT determinations and has attached them to this request. Dee Morse of the National Park Service indicated that questions regarding the modeling analysis should follow next week. The Department will forward these comments and questions as soon as possible. Please provide responses to the NPS's concerns.

According to Table 1-1 in the application, the proposed modification will result in the following significant increases: 139.5 TPY of PM; 131.4 TPY of PM10; 348.2 TPY of SO₂; 300.4 TPY of NO_x; 4082.7 TPY of CO; and 1972.3 TPY of VOC. To date the applicant has not provided a top-down BACT analysis for each significant pollutant nor suggested any methods to substantially reduce these emissions. No evaluation of technically feasible controls or associated costs have been provided for SO₂, NO_x, CO, or VOC. It is imperative that the Department obtain this information in order to process your BACT determination as soon as possible.

The Department will resume processing your application after receipt of the requested information. Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. A new certification statement by the authorized representative or responsible official must accompany any material changes to the application. Rule 62-4.055(1), F.A.C. now requires applicants to respond to requests for information within 90 days. If there are any questions, please call me at 850/414-7268. Matters regarding modeling issues should be directed to Cleve Holladay (meteorologist) at 850/921-8986.

Sincerely,



Jeffery F. Koerner, P.E.
New Source Review Section

JFK/jfk

cc: Mr. Gregg Worley, EPA
Mr. John Bunyak, NPS
Mr. Phil Barbaccia, South Florida District DEP
Mr. David Buff, P.E., Golder Associates

INTEROFFICE MEMORANDUM

Date: 11-Aug-1999 12:40pm
From: Dee_Morse
Dee_Morse@nps.gov
Dept:
Tel No:

To: jeff.koerner (jeff.koerner@dep.state.fl.us)

Subject: US Sugar PSD Application

Jeff,

Below are Don Shepherd's comments related to the BACT section of US Sugar's PSD application. As I said on the phone, John Notar still needs to look at the modeling. I think he will be able to review the modeling later this week or early next week and we can then get a letter off to the Florida DEP late next week. The letter will have Don's BACT comments and John's comments (if he has any). Thanks

US Sugar (USS) proposes to increase the permitted operating hours of its bagasse- and #6 oil-fired Boiler #4, and expand the current sugar refinery operation. USS proposes no new or additional controls to reduce the increase in emissions.

PSD Applicability

Although USS is acknowledging PSD applicability for all criteria pollutants, it has concluded that PSD is not triggered for sulfuric acid mist, even though future maximum emissions would be double the PSD significance level. USS bases this conclusion on a comparison of future maximum emissions to "Baseline" emissions. Because I could not find any description of how these "Baseline" emissions were calculated, we should request clarification on this issue.

USS states that, even though there would be additional emissions of criteria pollutants from the sugar mill and bagasse handling system, they need not be considered because PSD is already triggered. However, in order to correctly assess the impacts of all PSD-applicable increases in emissions, these additional emissions must be included in the PSD analysis.

Best Available Control Technology (BACT)

Particulate Matter (PM): USS concluded that addition of an electrostatic precipitator (ESP) to the #4 boiler exhaust would be economically infeasible at a cost of \$8436/ton removed. First, the threshold for acceptable costs should be defined. Because an ESP is in operation on a similar bagasse-fired boiler #7 at this mill, the cost-effectiveness of that boiler/ESP combination should be provided for use as the criterion. Second, there are several errors in the cost analysis for boiler #4 that tend to inflate costs:

The wet cyclone cost may be unnecessary if the existing impingement scrubber is retained for boiler #4.

It is not appropriate to include Working Capital costs.

The estimate that an operator will be required for eight hours per day for the ESP exceeds the three hours per day recommended by the OAQPS Control Cost Manual.

The interest rate used for the Capital Recovery Factor should be 7% instead of

10% according to the OAQPS Control Cost Manual.

Equipment life should be 20 years instead of 10 years according to the OAQPS Control Cost Manual.

If costs for the #4 boiler ESP were scaled from the #7 boiler ESP, all costs and scaling methods should be presented. Furthermore, the efficiency of the boiler #7 ESP should be provided; the efficiency for the boiler #4 ESP is only 75% and seems too low.

Nitrogen Oxides (NOx): USS concluded that the current "good combustion practices" represent BACT because they achieve an average emission rate of 0.08 lb/mmBtu. While we agree that this represents BACT, we also believe that this level of control should be reflected in the revised permit. A permit limit of 0.10 lb/mmBtu would allow for a 25% increase above average emissions.

Sulfur Dioxide (SO2): USS proposes to maintain the maximum sulfur content of the backup fuel oil at 2.5 % maximum, and to replace any oil burned with 1.5% sulfur oil. Because #6 oil can be obtained with much lower sulfur contents, USS should justify why it should not use those lower sulfur oils.

Conclusions & Recommendations

USS should explain how it calculated "baseline emissions" in determining PSD applicability.

PM control costs are overstated and should be corrected. A PM cost threshold should be defined.

The NOx limit should be lowered to reflect actual capabilities of boiler #4. Use of lower sulfur oil for back up should be evaluated.

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6. Signature: (Addressee or Agent) <i>Murray T. Brinson</i>			
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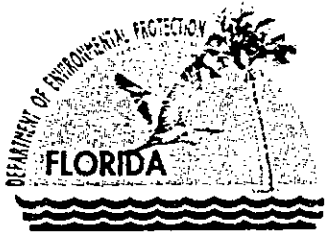
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Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

July 22, 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Murray T. Brinson, Vice President
United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, FL 33440

Re: Request for Additional Information
DEP File No. 051003-009-AC (PSD-FL-272)
Increased Operation of Boiler No. 4 and Refinery Expansion

Dear Mr. Brinson:

On June 25, 1999, the Department received your application and complete fee for a PSD air construction permit for the above referenced project. The application is incomplete. In order to continue processing your application, the Department will need the additional information requested below. Should your response to any of the below items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

1. As a result of the proposed changes, will any other processes or emissions units at this facility increase process rates or production rates? For example, will any of the combustion sources (other than Boiler No. 4) or material handling sources (other than the identified refinery units) increase operation as a result of increasing the operation of Boiler No. 4 or expanding the refinery?
2. Please verify the following maximum production capacities for the refinery operations:
 - 2000 ton/day sugar packaging (720,000 ton/year)
 - 2200 ton/day bulk sugar loadout (803,000 ton/year)
3. Provide the oil firing rates for Boilers 1 through 4 collectively for the 1997 and 1998 calendar years. What was the average fuel oil sulfur content for these years? For the 1999 season, when was fuel oil in the common storage tank replaced with fuel oil containing no more than 1.5% sulfur by weight, equivalent to the amount fired in Boiler No. 4?
4. For fossil fuel-fired steam generating units, Rule 62-296.406, F.A.C. requires a state BACT determination for SO₂ and PM. As a result, the Department has issued many state permits establishing very low sulfur fuels (< 0.05% sulfur by weight) as BACT for these pollutants. Also, recent BACT determinations for combustion turbines establish very low sulfur distillate oil (< 0.05% sulfur by weight) as BACT for SAM, SO₂, and PM. Provide

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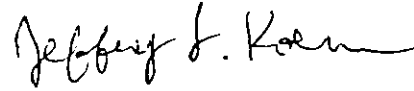
- supporting information documenting reasons why a similar fuel cannot be fired in Boiler No. 4. Also, provide a cost effectiveness analysis for fuel oil containing 0.05%, 0.5%, 1.0%, and 1.5% sulfur by weight, or some similar breakdown.
5. Table 2-1, Note 3 indicates 40% SO₂ removal efficiency from the wet scrubber when burning bagasse. Table 6-3, Note 6 indicates a 75% SO₂ removal efficiency from the wet scrubber when burning bagasse based on industry test data. SO₂ removal from the wet scrubber is not demonstrated for bagasse boilers. Please revise these tables to show no SO₂ removal and update any modeling for SO₂ based on assumed SO₂ removal by the wet scrubbers, if necessary.
 6. Table 2-1, Note 10 indicates the SO₂ maximum hourly emissions rate was based on firing oil with a sulfur content of 0.7% by weight. Why was this sulfur content used? The current permit limit is 1.5% sulfur, the proposed BACT limit is 1.5% sulfur, and oil fired in this boiler currently is supplied from a common tank containing oil between 1.5% and 2.5% sulfur by weight. Please explain and revise as necessary.
 7. Table 2-1 provides maximum 6-hour average emission rates. Why were these included and were these emissions rates used for modeling purposes?
 8. Table 6-4 indicates 93% of the PM is PM₁₀. Please provide supporting documentation to verify this estimate.
 9. Other than the covered truck/rail loadout area, are there any other sources of fugitive emissions? Are all conveyors enclosed, including bagasse handling?
 10. The current permit and O&M manual require the operators to test and record the pH of the scrubber water discharge at least twice per shift. What is the purpose for measuring and recording this parameter? What is the typical pH range? Does the facility add alkaline material to adjust the pH? Could the pH of the scrubber water be adequately maintained to control SO₂ emissions? Have SO₂ stack tests been performed for bagasse boilers to quantify the potential control effectiveness of maintaining an alkaline scrubbing media? What would be an acceptable pH range?
 11. Is the volumetric flow rate for Boiler No. 4 controlled by a variable speed fan to continuously adjust and maintain the scrubber water level for maximum particulate matter control by the Joy Turbolair wet scrubber?
 12. Based on the long history of particulate matter stack tests for Boiler No. 4 and other similar bagasse boilers, what is the optimum range of operation for the scrubber pressure drop in inches of water? In other words, what would be the minimum pressure differential above which would be an indicator of effective operation, but below which may indicate a problem? What would be the maximum pressure differential below which would be an indicator of effective operation, but above which may indicate a problem?
 13. What is the optimum range for the exhaust gas oxygen concentration that indicates adequate excess air is being supplied to the combustion process? In other words, what is the parametric range below which would be an indicator of insufficient oxygen for complete combustion, but above which would provide no additional benefit?

14. Table 1-1 on page 1-3 of the PSD Analysis indicates baseline emissions for Boiler No. 4. What were the baseline emissions for the existing sugar refinery?
15. Provide Table 3-1 and 3-2 for the June 14, 1999 permit modification (051-0003-008-AC) for the refinery operations. These tables were missing from information provided in the application.
16. Attachment UC-EU2-L3 provides control equipment parameters for the refinery operations. This attachment indicates a VOC destruction efficiency of 92% and a particulate matter control efficiency of 98% for emissions from the Granular Carbon Regeneration Furnace (GCRF) controlled with an afterburner and wet venturi scrubbing system. Please submit the most recent destruction/control efficiency tests conducted for this unit. What parameters are monitored to ensure the highest level of control?
17. Page 6-8 indicates that part-year operation of Boiler No. 4 was input to the air modeling analysis. In other words, some months had maximum emissions and some months had zero emissions. The application requests the ability to operate at maximum capacity at any time during the year with a cap on total heat input (steam production). Shouldn't the maximum capacity for every month be used for purposes of modeling? Please re-model, if necessary.
18. Page 6-9 indicates that "actual maximum" 1-hour CO emissions rates were used to model Boiler Nos. 1,2, and 3. Were "actual maximum" values based on individual test data? Were these values used because there are no permitted CO standards for these boilers?
19. In Louisiana and Hawaii, what control technologies are currently being used to control emissions of CO, NOx, PM, SO₂, and VOC from bagasse boilers? Sugar is also produced from sugar beets. Are any of the equipment or controls used in this industry applicable to the sugarcane industry?
20. Submit diskettes containing all of the air quality impact analysis modeling input/output files.
21. The modeling was performed with ISC Prime, which has not been approved by the EPA. Please submit the supporting documentation as previously requested from Golder Associates by the Department (attached). The use of the ISC Prime model MUST be approved by the EPA in writing before this project will be deemed complete, otherwise it may be necessary to re-model using the EPA-approved model.
22. Dee Morse of the National Park Service indicated that they would be providing comments and questions about the first week of August. The Department will forward these comments and questions as soon as possible. Please provide additional information and responses to the NPS's concerns.

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

please call me at 850/414-7268. Matters regarding modeling issues should be directed to Cleve Holladay (meteorologist) at 850/921-8986.

Sincerely,



Jeffery F. Koerner, P.E.
New Source Review Section

JFK/jfk

cc: Mr. Gregg Worley, EPA
Mr. John Bunyak, NPS
Mr. Phil Barbaccia, South Florida District DEP
Mr. David Buff, P.E., Golder Associates

Lotus cc:Mail for Brenda Johnson

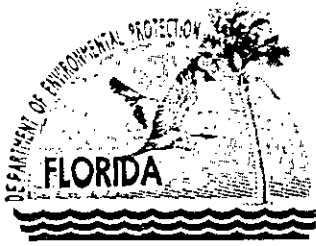
Author: Brenda Johnson at REGION4
Date: 05/18/99 02:53 PM
Priority: Normal
TO: cathy_wilson@cair.net at IN
CC: Kay Prince, Randy Terry, Stanley Krivo
BCC: Brenda Johnson
Subject: ISC-Prime

Cathy:

The following questions are being sent in response to your telephone call on what is required to use the ISC-PRIME model for modeling demonstrations. First of all, ISC-PRIME is not an EPA guideline model but has been under review by EPA. For regulatory purposes, the ISC3 model should be used. Case-by-case consideration and approval of non-guideline models are possible with the appropriate justification per section 3.2 of 40 CFR Part 51, Appendix W: Guideline on Air Quality Models. Any approval for ISC-PRIME, unless it became an EPA model, would be on a case-by-case basis and would not imply approval for use by other sources. Specifically, some questions/items that must be addressed for a case-by-case approval of ISC-PRIME include:

1. Why does ISC-PRIME offer a better theoretical simulation of the problem?
2. Based on the available performance evaluation data for ISC-PRIME, why would ISC-PRIME be expected to perform better than ISC3 for this application. To do this latter evaluation, the source/state should identify the evaluation data base(s) that is (are) similar to the situation for the proposed source. To assess similarity, the building/source geometry and the stack effluent characteristics should be compared for the evaluation data base and the proposed source. This could include a comparison of the stack height to building height ratios, and a comparison of the momentum and buoyancy fluxes.
3. Discuss the model evaluation of the ISC-PRIME model.

If this demonstration will be submitted to EPA as a SIP revision, we would prefer that a modeling protocol be submitted first. Approval of a non-guideline model should be approved prior to its use. Please let me know if I can be of further assistance. Have a great day....
Brenda Johnson



Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

July 2, 1999

Mr. John Bunyak, Chief
Policy, Planning & Permit Review Branch
NPS-Air Quality Division
Post Office Box 25287
Denver, Colorado 80225

Re: U.S. Sugar Corporation
0510003-009-AC, PSD-FL-272

Dear Mr. Bunyak:

Please disregard the previous cover letter for the above mentioned project and replace it with this one. We apologize for any inconvenience.

The applicant plans to increase operation of Boiler No. 4 and the sugar refinery.

Your comments can be forwarded to my attention at the letterhead address or faxed to the Bureau at (850)922-6979. If you have any questions, please contact Jeff Koerner at (850)414-7268.

Sincerely,

A. A. Linero, P.E.
Administrator
New Source Review Section

AAL/kt

Enclosures

cc: Jeff Koerner, BAR



Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

July 2, 1999

Mr. Gregg Worley, Chief
Air, Radiation Technology Branch
Preconstruction/HAP Section
U.S. EPA – Region IV
61 Forsyth Street
Atlanta, Georgia 30303

Re: U.S. Sugar Corporation
0510003-009-AC, PSD-FL-272

Dear Mr. Worley:

Please disregard the previous cover letter for the above mentioned project and replace it with this one. We apologize for any inconvenience.

The applicant plans to increase operation of Boiler No. 4 and the sugar refinery.

Your comments can be forwarded to my attention at the letterhead address or faxed to the Bureau at 850/922-6979. If you have any questions, please contact Jeff Koerner at 850/414-7268.

Sincerely,

A. A. Linero, P.E.
Administrator
New Source Review Section

AAL/kt

Enclosures

cc: Jeff Koerner, BAR

Golder Associates Inc.

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



June 24, 1999

993-7515

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

RECEIVED

JUN 25 1999

BUREAU OF
AIR REGULATION

Attention: Clair Fancy, Chief Bureau of Air Quality

RE: U.S. Sugar Corporation, Clewiston, Florida
PSD Permit Application

0510003-009-AC
PSD-F1-272

Dear Mr. Fancy:

On behalf of United States Sugar Corporation, (US Sugar), Golder Associates Inc. (Golder) is submitting to the Florida Department of Environmental Protection (FDEP) a Prevention of Significant Deterioration (PSD) permit application. This application is presented in support of US Sugar's intent to modify operations at their facility located in Clewiston, Florida. Specifically, US Sugar is proposing to increase the annual hours of operation and steam production for existing Boiler No. 4. US Sugar is also proposing to modify their existing sugar refinery by increasing the annual hours of operation for some units, installing three new sugar conditioning silos, and installing several powdered sugar/starch bins.

The existing sugar refinery was construction under Permit No. 0510003-004-AC. New Source Review under PSD regulations was not required for construction of the sugar refinery because potential emissions were below significant emission rates. However, the proposed modifications to the sugar refinery described in this application will result in potential emissions of particulate matter (PM) for the entire sugar refinery above the PM significant emission rate of 15 TPY. As such, PSD review for the refinery was triggered and it was considered a new facility for the purposes of this application.

Enclosed, we have provided four copies of the permit application and a check for the application fee of \$7,500. Your attention to this matter is greatly appreciated as the requested modifications to the operation of Boiler No. 4 is critical to US Sugar's

upcoming crop season. If you have any questions concerning this application, please call David Buff or myself from Golder at (352) 336-5600 or Don Griffin from US Sugar at (941) 902-2711.

Sincerely,

GOLDER ASSOCIATES INC.



Scott A. McCann, P.E.
Senior Engineer

SAM/arz

Enclosures

cc: D. Buff, Golder
D. Griffin, US Sugar
B. Wehrum, Latham & Watkins

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United States Sugar Corporation

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United States Department of the Interior

NATIONAL PARK SERVICE

Air Resources Division

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Denver, CO 80225

IN REPLY REFER TO:

August 23, 1999

N3615 (2350)

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AUG 26 1999

BUREAU OF AIR REGULATION

A.A. Linero, P.E., Administrator
Department for Environmental Protection
New Source Review Section
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Linero:

We have reviewed U.S. Sugar Corporation's (USS) Prevention of Significant Deterioration (PSD) permit application for the increase in permitted operating hours for boiler #4 and expansion of the current sugar refining operation at their Clewiston, Florida, facility. The facility is located approximately 102 kilometers north of Everglades National Park (NP), a Class I air quality area administered by the National Park Service (NPS). Proposed changes to the USS facility will cause emissions of volatile organic compounds to increase by 1,972 tons per year (TPY), sulfur dioxide to increase by 348 TPY, particulate matter to increase by 139 TPY, and nitrogen oxide emissions to increase by 300 TPY.

Based on our review of the permit application, we do not anticipate that the proposed project will have a significant impact on sensitive resources at the park. However, we do have the following comments regarding the PSD application.

PSD Applicability

Although USS is acknowledging PSD applicability for the above listed criteria pollutants, it has concluded that PSD is not triggered for sulfuric acid mist, even though future maximum emissions would be double the PSD significance level. USS bases this conclusion on a comparison of future maximum emissions to "baseline emissions." USS states that, even though there would be additional emissions of criteria pollutants from the sugar mill and bagasse handling system, they need not be considered because PSD is already triggered. However, in order to assess the impacts of all PSD-applicable increases in emissions, these additional emissions must be included in the PSD analysis. USS should explain how it calculated "baseline emissions" in determining PSD applicability, and compare the current actual emissions to future potential emissions.

Best Available Control Technology (BACT)

USS proposes to increase the permitted operating hours of its bagasse and oil-fired boiler #4, and expand the current sugar refinery operation. USS proposes no new or additional controls to reduce the increases in emissions.

Particulate Matter: USS concluded that adding an electrostatic precipitator (ESP) to the #4 boiler exhaust would be economically infeasible at a cost of \$8436/ton removed. First, the threshold for acceptable costs should be defined. Because an ESP is in operation on a similar bagasse-fired boiler #7 at this mill, the cost-effectiveness of that boiler/ESP combination should be provided for use as the criterion. Second, there are several errors in the cost analysis for boiler #4 that tend to inflate costs:

- The wet cyclone cost may be unnecessary if the existing impingement scrubber is retained for boiler #4.
- It is not appropriate to include Working Capital costs.
- The estimate that an operator will be required for eight hours per day for the ESP exceeds the three hours per day recommended by the OAQPS Control Cost Manual.
- The interest rate used for the Capital Recovery Factor should be 7% instead of 10% according to the OAQPS Control Cost Manual.
- Equipment life should be 20 years instead of 10 years according to the OAQPS Control Cost Manual.

If costs for the #4 boiler ESP were scaled from the #7 boiler ESP, all costs and scaling methods should be presented. Furthermore, the efficiency of the boiler #7 ESP should be provided; the efficiency for the boiler #4 ESP is only 75% and seems too low. In conclusion, PM control costs are overstated and should be corrected, and a PM cost threshold should be defined.

Nitrogen Oxides: USS concluded that the current "good combustion practices" represent BACT because they achieve an average emission rate of 0.08 lb/mmBtu. While we agree that this represents BACT, we also believe that this level of control should be reflected in the revised permit. A permit limit of 0.10 lb/mm Btu would allow for a 25% increase above average emissions. The NO_x limit should be lowered to reflect actual capabilities of boiler #4.

Sulfur Dioxide: USS proposes to maintain the maximum sulfur content of the backup fuel oil at 2.5 % maximum, and to replace any oil burned with 1.5% sulfur oil. Because #6 oil can be obtained with much lower sulfur content, USS should justify why it should not use those lower sulfur oils. Use of lower sulfur oil for back up should be evaluated.

Air Quality Analysis

The review of the air quality analysis indicates that impacts from the major modification to boiler #4 would be below the EPA's proposed Class I increment significant levels for particulate matter (PM₁₀), nitrogen dioxide (NO₂), and the sulfur dioxide (SO₂) annual

average. The analysis indicated that the modification would significantly impact the Class I increment at Everglades NP for the 3-hour and 24-hour averaging periods for SO₂. Therefore, U.S. Sugar performed a cumulative Class I increment analysis, including 20 increment-consuming sources, to assess the impact to the short term averaging periods. This analysis indicated a cumulative impact of 3.0 µg/m³, and 18.0 µg/m³ for the 24-hour and 3-hour averaging periods, respectively. These levels are below the respective Class I increments of 5 and 25 µg/m³.

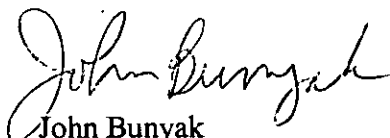
The increment and acid deposition analyses were performed with EPA's ISCST3 model. In December 1998, the EPA released the latest guidance for modeling impacts to Class I areas beyond 50 kilometers from the source. The ISCST3 model is no longer the recommended model for long-range transport analyses. Future PSD applications which require long-range transport analyses to assess impacts to increments and air quality related values, for Class I areas, should follow the latest guidance in the EPA document *Interagency Workgroup on Air Quality Modeling (IWAQM) Phase 2 Summary Report and Recommendations for Modeling Long Range Transport Impacts EPA-454/R-98-019 December 1998*. The IWAQM Phase 2 guidance suggests that PSD applicants use the CALPUFF model for both a screening level analysis and refined analysis.

USS did apply the CALPUFF model in the screening mode to assess impact to regional haze at Everglades NP. The analysis was performed correctly, and indicates an impact of a 3% change in extinction, which is below the NPS threshold value of a 5% change in extinction.

In the future, we request that Florida Department for Environmental Protection inform applicants to contact the NPS Air Resources Division or the U.S. Fish and Wildlife Services Air Quality Branch before starting future modeling analyses. We will advise applicants of the significant change in dispersion modeling methodology and techniques in IWAQM Phase 2.

Thank you for involving us in the review of the PSD permit application for the USS facility. Please do not hesitate to contact Mr. Dee Morse of my staff at (303) 969-2817 regarding future air quality matters involving the NPS.

Sincerely,



John Bunyak

Chief, Policy, Planning and Permit Review Branch

CC: EPA

SD
D. Buff, Golder

J. Koerner, BAR

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*Mr Murray T. Brinson, VP.
United States Sugar Corp.
111 Ponce De Leon Ave.
Clematis, FL 33440*

2. Article Number (Copy from service label)

2341-355 318

PS Form 3811, July 1999

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PS Form 3800 April 1995



Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

June 21, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Murray T. Brinson, Vice President
United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, FL 33440

Re: Additional Information Request No. 2
DEP File No. 0510003-010-AC (PSD-FL-272A)
Revised ISC Prime Modeling Scenario

Dear Mr. Brinson:

On May 23, 2000, the Department received additional information requested on February 4, 2000. The Department reviewed this information and has some additional questions regarding the revised modeling scenario. The application remains incomplete. In order to continue processing your application, the Department will need the additional information attached to this letter. Should your response to any of the below items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form. *Prior to revising the modeling analysis, the Department would like to meet with your consultant to establish acceptable scenarios to prevent further delays.*

The Department will resume processing your application after receipt of the requested information. Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. A new certification statement by the authorized representative or responsible official must accompany any material changes to the application. Rule 62-4.055(1), F.A.C. now requires applicants to respond to requests for information within 90 days. If you have any questions, please call me at 850/414-7268. Matters regarding modeling issues should be directed to the project meteorologist, Cleve Holladay, at 850/921-8986.

Sincerely,

Jeffery F. Koerner, P.E.
New Source Review Section

JFK/jfk

cc: Mr. David Buff, P.E., Golder Associates
Mr. David Knowles, SD
Mr. Gregg Worley, EPA
Mr. John Bunyak, NPS

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Additional Information Request No. 2 - ISC Prime Modeling Project

1. Response to FDEP No. 1 and EPA No. 1: The response indicates that Boiler Nos. 1-3 are not currently restricted on annual operating hours or to only operating during the crop season. However, it is the recent startup of the refinery that would actually allow these units to operate during the traditional off-season. In addition, excess sugar cane and bagasse will be brought in from U.S. Sugar's Bryant mill. Please explain why operation of Boiler Nos. 1-3 during the off-season would not be considered a change in the method of operation and therefore a modification.

Also, please define "crop season" dates for the PSD baseline cases as well as for the proposed project. There appear to be inconsistencies between the various modeling runs. For example, the off-season SO₂ PSD Class I increment screening runs have monthly activity factors of "1" for the period of May to October while the corresponding refined runs have monthly activity factors of "1" for the period of April to October. The analyses should be consistent. In addition, they should also be conservative. In evaluating the increment consumption of the proposed project, partial operation during a month should be input as full operation for that month. In the example above, the refined runs with monthly activities of "1" for the period of April to October would be correct if there is any proposed off-season operation for April.
2. Response to FDEP No. 2 and EPA No. 2: Comments for the Section 6.0 tables are provided below.
3. Response to FDEP No. 3 and EPA No. 4: No comment.
4. Response to FDEP No. 4 and EPA No. 5: Comments for the Section 6.0 tables are provided below.
5. Response to FDEP No. 5: No comment.
6. Response to EPA No. 3: Comments regarding CO emissions are provided below.
7. Crop Season Operational Restrictions: Please provide information that supports the "worst-case scenarios" presented for Boiler Nos. 1-4. The Department is not yet convinced because the restrictions on fuel oil involve four different boilers, different heat input rates, different fuel consumption rates for each boiler, and different fuel sulfur limits. Please provide the maximum 1-hour fuel consumption rate for each boiler based on design specifications. Additional comments are provided below.
8. Off-Season Operational Restrictions (1-hr, 3-hr, and 8-hr Operation): The Department is not convinced that the worst case scenario is presented for limiting total steam production from Boiler Nos. 1-4 and 7 to 1,062,800 lb/hr. These units have different stack heights, diameters, heat inputs, velocities, fuel oil consumption rates, and steam enthalpies. Please provide information that supports the "worst-case scenarios" presented or simplify the restrictions. The Department is not yet convinced because the restrictions on fuel oil involve four different boilers, different heat input rates, different fuel consumption rates for each boiler, and different fuel sulfur limits. Also, please revise the heat input from bagasse to reflect the remaining heat input after subtracting the heat input from oil firing. In other words, it is inappropriate to consider an 80% thermal efficiency from oil firing for these units. Historically, the Department has made concessions to limit and monitor the steam production as a surrogate for fuel consumption. Otherwise, the Department is considering a requirement to install weigh scales and limit bagasse consumption to provide reasonable assurance. Additional comments are provided below.
9. Off-Season Operational Restrictions (24-hr Operation): The Department offers the same comments as no. 8 above. It is inappropriate to limit fuel oil firing based on steam production. Again, the Department is not convinced that the worst case scenario is presented for limiting total steam production or fuel oil consumption for the various combinations presented. Please provide information that supports the "worst-case scenarios" presented or simplify the restrictions. What are the process steam needs during the off-season? What combinations of boilers could be used to meet these needs? If the steam needs can be met with only a few boilers, the Department believes the modeling can be greatly simplified. Additional comments are provided below.

Additional Information Request No. 2 - ISC Prime Modeling Project

10. Table 2-1. Short-Term Emissions for Boiler No. 4: Footnote (a) indicates 55% thermal efficiency for bagasse firing and 80% thermal efficiency for oil firing. The thermal efficiency for bagasse firing is fairly well established. The Department does not believe this assumption to be accurate for a boiler designed to fire primarily bagasse with supplemental oil firing. Please revise and base solely on the maximum oil-firing rate allowed by permit with the remaining heat input coming from bagasse.
11. Table 2-2. Future Maximum Annual Emissions for Boiler No. 4: Although the industry has performed some particulate tests to establish the fraction of PM₁₀ emissions, no separate limits have been imposed for PM₁₀. In addition, the Department is not aware of any recent PM₁₀ tests conducted for this industry. Please revise the modeling based on the assumption that all of the PM emissions are PM₁₀.
12. Table 2-4. Emissions from Granular Carbon Regenerative Furnace (GCRF): The SO₂ emission rate should be based on 0.05% not 0.03% sulfur by weight because the permit was revised. A review of the file indicates that an SO₂ limit and testing was required for the GCRF because the decolorization process may result in additional SO₂ emissions, which would be controlled by the wet scrubber. However, the current application suggests that the GCRF will only emit SO₂ as the result of fuel combustion. Please verify that the sugar refining process will not result in additional SO₂ emissions. If it does, please quantify. Also, please provide a summary of the SO₂ emissions from the GCRF for tests required in construction permit modification no. 0510003-004-AC.
13. Table 2-7. Stack Parameters for Existing and Modified Boiler No. 4: This table clearly indicates that increased steam production for Boiler No. 4 will result in higher volumetric flow rates and exit velocities. Conversely, lower steam production rates will result in lower volumetric flow rates and exit velocities. Please revise the modeling analysis to account for the lower flow rates and velocities whenever a reduced steam production or heat input is requested (for example, a reduced heat input based on a 24-hour average).
14. Table 3-4. Net Emissions increase for Boiler No. 4: Please confirm that this table represents the last permitting action (PSD-FL-272) for Boiler No. 4 and not the current request. The current request should result in no increases in emissions from Boiler No. 4.
15. Table 6-2. Summary of Stack Parameters: This table omits Boiler Nos. 5 and 6 from any consideration in the modeling analysis. A review of the operational history indicates no use during the last crop season. In addition, the emissions reductions were used as net decreases to avoid a BACT determination for at least CO emissions for the PSD permit for Boiler No. 7. The Department will remove the authority to operate these units, even for standby purposes.
16. Table 6-3. SO₂ Emissions – Future Crop Season
 - a. The SO₂ emission rate for firing bagasse in Boiler No. 4 should be based on the revised permit limit of 0.06 lb/mmBTU not 0.10 lb/mmBTU. This occurs in both the 3-hour and 24-hour cases. Please revise the SO₂ emission rate for Boiler No. 4 using an emissions rate of 0.06 lb SO₂/mmBTU as the "maximum" emissions.
 - b. Note (b) indicates that 75% reduction was *assumed* for bagasse firing from Boiler Nos. 1-3. The modeling analysis indicates that SO₂ is very close to the acceptable PSD increments. Therefore, it is inappropriate to assume such a large reduction. Please revise the analysis to assume no reductions. Otherwise, the Department will establish appropriate permit limits and stack testing to ensure that the reduced emission levels are routinely achieved.
 - c. Note (c) indicates that the steam rates for Boiler Nos. 1-3 are based on the 24-hour average steam rates. What does U.S. Sugar believe the maximum 1-hour steam rates to be? See also the Department's Table A-1 and corresponding questions.

Additional Information Request No. 2 - ISC Prime Modeling Project

- d. Both the 3-hour and 24-hour cases include the current permit restrictions for fuel oil firing. This is inappropriate because Boiler No. 4 now has a separate fuel tank and fires oil with a lower sulfur content. Because this project includes stack height increases and a unique air dispersion model to satisfy the air quality impacts for SO₂, it is important to ensure that a lower emission rate for a unit with a shorter stack and cooler exhaust temperature would not result in a higher ambient impact. Please revise the modeling analysis accordingly and provide supporting information to indicate how the “worst case” was determined. Otherwise, model each scenario offered for consideration.

17. Table 6-4a, PM₁₀ and CO Emissions – Future Crop Season

- a. For Boiler Nos. 1-4, please revise and base the maximum 24-hour case on PM₁₀ equal to 100% of PM emissions.
- b. The emission rates for Boiler Nos. 1-3 were based on actual test data. However, the table reflects two different emission rates for these boilers, apparently based on the averaging period. Please revise the data for the maximum 8-hour case to reflect the emission rates used for the maximum 1-hour case. This is similar to using the maximum permitted emission rates for Boiler Nos. 4 and 7.

18. Table 6-4b, Maximum SO₂ Emissions – Future Off-Season Operation

- a. Footnotes (a) and (b) indicate 55% thermal efficiency for bagasse firing and 80% thermal efficiency for oil firing. Although the thermal efficiency for bagasse firing is fairly well established, the Department does not believe the assumption for oil firing to be accurate nor verifiable for a boiler designed to fire primarily bagasse with supplemental oil firing. Please revise and base solely on the maximum oil-firing rate allowed by permit with the residual heat input made coming from bagasse. In other words, the heat input from oil firing plus the heat input from bagasse firing will add up to the maximum design heat input rate – not a lower heat input rate.
- b. Note (b) indicates that 75% reduction was *assumed* for bagasse firing from Boiler Nos. 1-3. The modeling analysis indicates that SO₂ is very close to the acceptable PSD increments. Therefore, it is inappropriate to assume such a large reduction. Please revise the analysis to assume no reductions. Otherwise, the Department will establish appropriate permit limits and stack testing to ensure that the reduced emission levels are routinely achieved.
- c. Note (d) indicates that the steam rates for Boiler Nos. 1-3 are based on the 24-hour average steam rates. What does U.S. Sugar believe the maximum 1-hour steam rates to be? See also the Department’s Table A-1 and corresponding questions.
- d. Both the 3-hour and 24-hour cases include new permit restrictions for fuel oil firing and steam rates for Boiler Nos. 1-4 and 7. The requested limits may not be adequate to determine ensure maximum emissions. As shown in this table, there are three different steam enthalpies for the five boilers and as well as three different fuel sulfur contents. Because this project includes stack height increases and a unique air dispersion model to satisfy the air quality impacts for SO₂, it is important to ensure that a lower emission rate for a unit with a shorter stack and cooler exhaust temperature would not result in a higher ambient impact. Please simplify the restrictions on the boilers to a manageable scenario, revise the modeling analysis accordingly, and provide supporting information to indicate how the “worst case” was determined. Otherwise, model each alternate scenario offered for consideration.

19. Table 6-4c, Maximum PM₁₀ Emissions – Off-Season Operation

- a. See Department comment 9a above.
- b. U.S. Sugar requests a maximum 24-hour steam rate of 744,000 lb/hour for Boiler Nos. 1-4 and 7. Please provide supporting information that indicates the scenario provided represents the worst case.

Additional Information Request No. 2 - ISC Prime Modeling Project

c. See Department comment 2 above.

20. Table 6-4d, Maximum CO Emissions – Off-Season Operation

a. See Department comment 9a above.

b. Note (c) indicates that the emission rates for Boiler Nos. 1-3 were based on actual test data. However, the table reflects two different emission rates for these boilers, apparently based on the averaging period. Please revise the data for the maximum 8-hour case to reflect the emission rates used for the maximum 1-hour case. This is similar to using the maximum permitted emission rates for Boiler Nos. 4 and 7.

c. Note (d) indicates that the steam rates for Boiler Nos. 1-3 are based on the 24-hour average steam rates. What does U.S. Sugar believe the maximum 1-hour steam rates to be? See also the Department's Table A-1 and corresponding questions.

21. Tables 6-6 through 6-12, Summary of SO₂ Facilities

a. A new power plant, Lake Worth Generating, has been permitted adjacent to Lake Worth Utilities. The FPL Martin Plant has published notice on a Draft Permit for two new combustion turbines. Shouldn't the potential emissions from these two new facilities be included in the inventory?

b. Are the east and west pellet plants listed in Table 6-8 still in existence at the U.S. Sugar Clewiston facility?

22. Table 6-13, A Summary of the Building Structures: As noted in this table, several large building structures are located in the refinery and are included in the modeling analysis. The structures had not been included in any previous PSD modeling at this facility. A review of the permitting files indicates that the Bureau of Air Regulation issued a PSD permit for Boiler No. 7 in 1995. According to Golder Associates (letter dated January 16, 1997), this boiler was "designed and built with the intention of operating 8760 hours per year" to "provide steam to the new mill expansion (sugar processing system)" during the crop season as well as during the off season. The Department's South District Office issued a *minor source* permit for the refinery operations in 1996, conditioned to avoid PSD applicability. This permit was later revised to further restrict operations in an effort to maintain permitted emission levels below the Significant Emissions Rates and continue to avoid PSD applicability. As a result of these separate applications, no BACT determinations were made for the refinery units and no modeling analysis was performed that included the refinery structures. Please describe why these separate requests should not be considered "project splitting".

23. Department's Table A-1, Capacity History for Boiler Nos. 1-3 (attached): A review of the permit files indicated much lower maximum steam rates and heat input levels for Boiler Nos. 1-3, as provided by U.S. Sugar. Please see the attached summary Table A-1. For each boiler this table lists the following items:

- The maximum design steam rate (lb/hr);
- The maximum design heat input (mmBTU/hr);
- The heat input (mmBTU/hr) and firing rate (TPH) for firing only bagasse; and
- The heat inputs (mmBTU/hr) and firing rates (TPH and GPH) for firing the maximum amount of fuel oil with the remaining heat input from bagasse.

The information for "1973/1974" column is based on data provided by U.S. Sugar in previous air construction permit applications. The information for "ARMS DB" column is based on the current data available in the state's Air Resources Management Database. The information for the "proposed" column is based on data in the current proposed project. As shown, it appears that both the steam rates and heat inputs have escalated over the last 25 years. Please identify each modification made to these boilers that allowed substantial increases in the steam production rates or heat inputs including the dates, physical

Additional Information Request No. 2 - ISC Prime Modeling Project

changes, approvals, permit modifications, and emissions rates. Please identify what U.S. Sugar now considers to be the "maximum 1-hour" steam rates, heat inputs, and oil firing rates for each unit. Please explain why each change did not trigger a PSD modification or an NSPS modification.

24. Other Modeling Questions:

- Please include Boiler Nos. 1-3 in the off-season significant impact analysis for both the PSD Class I and Class II areas.
- Please explain the method for determining an accurate annual concentration with different emission rates for each operating season (crop season and off-season).
- Please list the radii of significant impact for all Class II significant impact analyses (both crop season and off-season) in the appropriate table.

Due to the assumptions made, the changes requested, and modeled impacts approaching the PSD increments, the Department does not yet believe the Air Quality Analysis demonstrates compliance with the Ambient Air Quality Standards or PSD increments.

TABLE A-1. CAPACITY HISTORY FOR BOILER NOS. 1-3

Parameter	Boiler No. 1			Boiler No. 2			Boiler No. 3		
	1973/1974	ARMS DB	Proposed	1973/1974	ARMS DB	Proposed	1973/1974	ARMS DB	Proposed
Steam Rate, lb/hr	175000	235000	255100	200000	235000	255100	100000	135000	167600
Design HI, mmBTU/hr	340	494	496	329	494	496	194	267	342
All Bagasse, TPH	23.6	34.3	34.4	22.8	34.5	34.4	13.5	18.5	23.8
All Bagasse, mmBTU/hr	340.0	493.2	496.0	329.0	496.8	496.0	194.0	266.4	342.0
Bagasse w/Oil, TPH	22.6	16.8	18.8	21.2	16.8	18.8	10.3	8.9	14.4
Oil, GPH	98.0	1678.0	1500.0	100.0	1680.0	1500.0	305.0	924.0	900.0
From Bagasse, mmBTU/hr	325.4	242.3	270.6	305.6	242.0	270.6	147.7	128.4	207.0
From Oil, mmBTU/hr	14.7	251.7	225.0	15.0	252.0	225.0	45.8	138.6	135.0
Total HI, mmBTU/hr	340.1	494.0	495.6	320.6	494.0	495.6	193.4	267.0	342.0

Fuel	mmBTU/Unit	Unit
Bagasse	14.4	ton
Oil	0.15	gallon

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PS Form 3800, April 1995



Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

May 26, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Murray T. Brinson, Vice President
United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, FL 33440

Re: Notice of Receipt of Additional Information Request No. 1
DEP File No. 0510003-010-AC (PSD-FL-272A)
Revised ISC Prime Modeling Scenario

Dear Mr. Brinson:

On May 4, 2000, the Department received some of the additional information requested on February 4, 2000. We did not receive the ISC Prime modeling files until May 23, 2000. We are currently reviewing all of the information at this time and will provide any additional requests by June 21, 2000. Please be aware that the various modeling scenarios presented require numerous limitations on boiler combinations, oil firing, fuel sulfur contents, and steam production. In turn, this will require substantial amounts of frequent record keeping in order to demonstrate compliance. If you have any questions, please call me at 850/414-7268. Matters regarding modeling issues should be directed to the project meteorologist, Cleve Holladay, at 850/921-8986.

Sincerely,

Jeffery F. Koerner, P.E.
New Source Review Section

JFK/jfk

cc: Mr. David Buff, P.E., Golder Associates
Mr. David Knowles, SD
Mr. Gregg Worley, EPA
Mr. John Bunyak, NPS

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

- 1. Addressee's Address
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3. Article Addressed to: Mr. Murray J. Burison U. S. Sugar Corp. 111 Ponce De Leon Ave Clewiston, FL 33440		4a. Article Number: 2 031 391 933
5. Received By: (Print Name)		4b. Service Type <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail <input type="checkbox"/> Insured <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> COD
6. Signature: (Addressee or Agent) <i>Murray Burison</i>		7. Date of Delivery 2-9-00
		8. Addressee's Address (Only if requested and fee is paid)

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PS Form 3811, December 1994

102595-98-B-0229

Domestic Return Receipt

2 031 391 933

US Postal Service
Receipt for Certified Mail

No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

Sent to <i>Murray Burison</i>	
Street & Number <i>U.S. Sugar</i>	
Post Office, State, & ZIP Code <i>Clewiston FL</i>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date <i>2-7-00</i> <i>0510003-010-AC</i>	

PS Form 3800, April 1995



Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

February 7, 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Murray T. Brinson, Vice President
United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, FL 33440

Re: Request for Additional Information No. 1 – EPA Comments
DEP File No. 051003-010-AC (PSD-FL-272A)
Revised ISC Prime Modeling Scenario

Dear Mr. Brinson:

Review comments were received from EPA Region 4 by fax on February 4, 2000. These comments are being forwarded for your response, as discussed in the Department's request for additional information dated February 4, 2000.

The Department will resume processing your application after receipt of the requested information. Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. A new certification statement by the authorized representative or responsible official must accompany any material changes to the application. Rule 62-4.055(1), F.A.C. now requires applicants to respond to requests for information within 90 days. If there are any questions, please call me at 850/414-7268. Matters regarding modeling issues should be directed to Cleve Holladay (meteorologist) at 850/921-8986.

Sincerely,

Jeffery F. Koerner, P.E.
New Source Review Section

JFK/jfk

cc: Mr. David Buff, P.E., Golder Associates
Mr. David Knowles, SD
Mr. John Bunyak, NPS

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

FEB 04 2000

4 APT-ARB

Mr. A. A. Linero, P.E.

Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400SUBJ: Review Comments on Final Air Quality Impact Analysis
US Sugar Corporation Clewiston Mill
Clewiston, Florida

Dear Mr. Linero:

Thank you for providing a review copy of the December 17, 1999, Golder Associates' letter containing the final plant configuration, fuel consumption information, air emissions data, and air quality impact assessment associated with the U.S. Sugar Corporation - Clewiston Mill. This facility was issued Final Permit No. 0510003-009-AC (PSD-FL-272) in November 1999. The purpose of Golder Associates' letter was to fulfill permit condition 7(c) which requires submittal of a final compliance demonstration for this modified facility. The following presents our air quality related comments on this letter. [Note: These comments were provided to FL DEP representative on February 2, 2000.]

1. PSD Expanding Sources - Previous communications with Golder Associates indicated current U.S. Sugar PSD expanding sources have no monthly or annual permit operational limits. They have therefore been modeled as operating for the full year. The emission rates used should be based on actual operations not permit allowables. In addition, an explanation is needed as to why Boiler 1 and 2 expansion emission rates (negative modeled emissions) are always equal to the increment consumption emission rates. This is not a normal modeling technique for PSD expanders.
2. Location of U.S. Sugar Sources - Table 10 of the December 1999, letter has new locations for the U.S. Sugar sources. These new locations were not included in the modeling provided in support of this letter.
3. CO Emission Rates - Table 7 of the letter presents CO emission rates for each of the two averaging periods of concern. Only the 1-hour rates were used in the modeling. Because the 1-hour emission rates are larger than the 8-hour values, this procedure provides appropriately conservative concentrations.

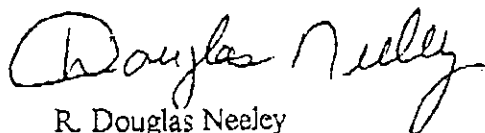
2

4. Stack Exit Parameters - Although the stacks for Boilers 1-3 have been raised from 165 to 182 feet, the exit temperature, velocity, and stack diameter have not changed. To ensure correct values were used in the modeling, the provided stack exit parameters need to be confirmed.
5. SO₂ Impact Analysis - The SO₂ 3-hour, 24-hour and annual PSD increment analyses were not performed to 100-m receptor grid resolution. Although not correctly modeled, the basic results should not change because the resultant concentrations were all less than 15 percent of the applicable PSD increment.

The NAAQS analysis was performed correctly. The results show the 24-hour SO₂ NAAQS concentration to be 99 percent of the standard. Because of this and the above comments on some of the model input parameters, the NAAQS SO₂ impact assessment needs to be confirmed.

Thank you again for the opportunity to comment on this final air quality impact assessment for the U.S. Sugar - Clewiston Mill. If you have any questions regarding these comments, please direct them to Stan Krivo at 404-562-9123.

Sincerely,



R. Douglas Neeley
Chief

Air and Radiation Technology Branch
Air, Pesticides and Toxics
Management Division

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- 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):

- 1. Addressee's Address
- 2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
 Mr. Murray J. Brunson
 US Sugar Corp
 111 Ponce Deleon Ave
 Clewiston, FL 33440

4a. Article Number
 Z 031 391 932

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

7. Date of Delivery
 2-7-00

5. Received By: (Print Name)

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

6. Signature: (Addressee or Agent)
 X *Susan Sales*

Thank you for using Return Receipt Service.

Z 031 391 932

US Postal Service
Receipt for Certified Mail

No insurance Coverage Provided.

Do not use for International Mail (See reverse)

Sent to <i>Murray Brunson</i>	
Street & Number <i>US Sugar</i>	
Post Office, State, & ZIP Code <i>Clewiston FL</i>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	<i>2-4-00</i>
<i>0510003-010-AC PSD-FL-272-A</i>	

PS Form 3800, April 1995



Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

February 4, 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Murray T. Brinson, Vice President
United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, FL 33440

Re: Request for Additional Information No. 1
DEP File No. 051003-010-AC (PSD-FL-272A)
Revised ISC Prime Modeling Scenario

Dear Mr. Brinson:

On January 6, 2000, the Department received an application for the above referenced project. The application is incomplete. In order to continue processing your application, the Department will need the additional information requested below. Should your response to any of the below items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

1. Emission values used for the PSD increment expanding sources should be based on actual operations during the baseline years not permit allowables for both short-term and annual impact assessments. Please provide the basis for the negative emissions rates used for Boiler Nos. 1 and 2 in the increment analysis.
2. There is a discrepancy between the locations of U.S Sugar Clewiston Boiler Nos. 1,2,3, and 7 given in Table 10 and those used in the modeling analysis. Please provide the correct locations of the boilers.
3. Although the stacks for Boiler Nos. 1, 2, and 3 have been raised from 165 feet to 182 feet, the exit temperatures, velocities, and diameters have not changed. Please confirm that the increase in stack heights does not cause changes in the other exit parameters.
4. The SO₂ 3-hour, 24-hour, and annual Class II PSD increment analyses were not performed to an equivalent 100-m receptor grid resolution. Please perform this refined modeling.
5. The Department expects to receive additional comments from EPA Region 4 shortly and will forward for your response as soon as possible.

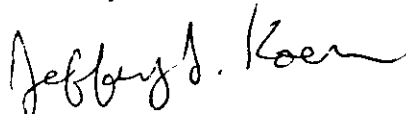
The Department will resume processing your application after receipt of the requested information. Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses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

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Sincerely,



Jeffery F. Koerner, P.E.
New Source Review Section

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Mr. Gregg Worley, EPA
Mr. John Bunyak, NPS



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

FEB 04 2000

RECEIVED

FEB 10 2000

BUREAU OF AIR REGULATION

4 APT-ARB

Mr. A. A. Linero, P.E.
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

SUBJ: Review Comments on Final Air Quality Impact Analysis
US Sugar Corporation Clewiston Mill
Clewiston, Florida

Dear Mr. Linero:

Thank you for providing a review copy of the December 17, 1999, Golder Associates' letter containing the final plant configuration, fuel consumption information, air emissions data, and air quality impact assessment associated with the U.S. Sugar Corporation - Clewiston Mill. This facility was issued Final Permit No. 0510003-009-AC (PSD-FL-272) in November 1999. The purpose of Golder Associates' letter was to fulfill permit condition 7(c) which requires submittal of a final compliance demonstration for this modified facility. The following presents our air quality related comments on this letter. [Note: These comments were provided to FL DEP representative on February 2, 2000.]

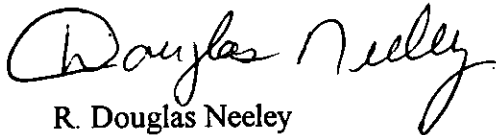
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Thank you again for the opportunity to comment on this final air quality impact assessment for the U.S. Sugar - Clewiston Mill. If you have any questions regarding these comments, please direct them to Stan Krivo at 404-562-9123.

Sincerely,



R. Douglas Neeley
Chief
Air and Radiation Technology Branch
Air, Pesticides and Toxics
Management Division

cc: J. Koerner
C. Holladay
S. District
NPS

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION 4

ATLANTA FEDERAL CENTER
81 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

FEB 04 2000

4 APT-ARB

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Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400SUBJ: Review Comments on Final Air Quality Impact Analysis
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2

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Sincerely,



R. Douglas Neeley
Chief

Air and Radiation Technology Branch
Air, Pesticides and Toxics
Management Division