Department of
Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

December 29, 2004

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. William A. Raiola, V.P. of Sugar Processing Operations
United States Sugar Corporation
Clewiston Sugar Mill and Refinery
111 Ponce DeLeon Avenue
Clewiston, FL 33440

Re: Project No. 0510003-028-AC
United States Sugar Corporation - Clewiston Sugar Mill and Refinery
Temporary Firing of Wood Chips Generated from Recent Hurricanes
Exemption from the Requirement to Obtain an Air Construction Permit

Dear Mr. Raiola:

On November 9, 2004, U.S. Sugar Corporation submitted an application to the Bureau of Air Regulation requesting temporary authorization to fire wood chips (generated from the recent hurricanes) in the existing sugar mill boilers. The wood chips will displace bagasse and fuel oil. Wood chips will constitute approximately 25% of the bagasse/wood mixture fired in the boilers.

Determination: The Department's complete review of this project is summarized in the attached Technical Evaluation. For the reasons stated in the Technical Evaluation, the Department approves your request as conditioned by the provisions attached to this letter. Pursuant to Rule 62.4.040(1)(b), F.A.C., the Department exempts this project from the requirement to obtain an air construction permit. This determination may be revoked if the proposed activity is substantially modified or the basis for the exemption is determined to be materially incorrect. A copy of this letter shall be maintained at the site of the proposed activity. This permitting decision is made pursuant to Chapter 403, Florida Statutes.

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210, and 62-212 of the Florida Administrative Code (F.A.C.). The Department of Environmental Protection's Bureau of Air Regulation is the Permitting Authority responsible for making a determination for this project. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida 32301. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/488-0114.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by the applicant or any of the parties listed below must be filed within twenty-one (21) days of receipt of this Written Notice of Exemption. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within twenty-one (21) days of publication of a Public

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- Print your name and address on the reverse so that we can return the card to you.
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1. Article Addressed to:

Mr. William A. Raiola
V.P. of Sugar Processing Operations
Clewiston Sugar Mill and Refinery
111 Ponce DeLeon Avenue
Clewiston, Florida 33440

COMPLETE THIS SECTION ON DELIVERY

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X [signature] ☐ Agent ☐ Addressee

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Mr. William A. Raiola
Street, Apt. No.; or PO Box No.
Clewiston Sugar Mill and Reginery
111 Ponce DeLeon Avenue
City, State, ZIP+4
Clewiston, Florida 33440

PS Form 3800, May 2000 See Reverse for Instructions

7000 1670 0013 3109 9021

Notice or within twenty-one (21) days of receipt of this Written Notice of Exemption, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within twenty-one (21) days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when each petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Written Notice of Exemption. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available in this proceeding.

Effective Date: This permitting decision is final and effective on the date filed with the clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition pursuant to Rule 62-110.106, F.A.C., and the petition conforms to the content requirements of Rules 28-106.201 and 28-106.301, F.A.C. Upon timely filing of a petition or a request for extension of time, this action will not be effective until further order of the Department.

Appeal: Any party to this permitting decision (order) has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within thirty (30) days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

Trina Vielhauer, Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this order was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 12/30/04 to the persons listed:

Mr. William A. Raiola, U.S. Sugar*
Mr. Peter Briggs, U.S. Sugar
Mr. Don Griffin, U.S. Sugar
Mr. David Buff, Golder Associates Inc.
Mr. Ron Blackburn, SD Office
Mr. Jim Little, EPA Region 4

Clerk Stamp

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

(Clerk) 12/30/04 (Date)

Subject to the following provisions and restrictions, the U.S. Sugar Corporation (U.S. Sugar) is authorized to temporarily fire wood chips generated from the recent hurricanes in the existing sugar mill boilers.

1. Wood chips may be fired to displace bagasse and fuel oil in support of the sugar mill operations.
2. Wood chips shall come from clean dry wood and vegetative materials generated from the recent hurricanes in Florida.
3. U.S. Sugar shall work with suppliers to ensure that the wood chips are substantially free of plastics, rubber, glass, painted wood, chemically treated wood, and non-combustible materials. U.S. Sugar shall require its suppliers to implement procedures to remove these unwanted materials and to produce wood chips consisting of clean dry wood and vegetative materials. Such procedures would include, but are not limited to, the use of heavy equipment, magnetic separation, mechanical screening, visual inspection, manual sorting, etc. The firing of any household garbage, hazardous wastes, or toxic materials is prohibited. A list of suppliers and contact information shall be maintained on site.
4. U.S. Sugar shall take the necessary precautions to ensure that wood chips delivered to the facility contain only incidental amounts of plastics, rubber, glass, painted wood, chemically treated wood, and other non-combustible materials. U.S. Sugar shall not knowingly accept or burn these unwanted materials. An adequate staff shall be properly trained as "Fuel Handlers" to visually inspect deliveries of wood chips in the truck receiving area. Wood chip loads that contain any amounts of household garbage, hazardous wastes, or toxic materials shall be immediately rejected. Wood chip loads that contain substantial amounts of plastics, rubber, glass, painted wood, chemically treated wood, and other non-combustible materials shall also be rejected.
5. Each week, at least three grab samples of wood chips delivered to the facility shall be taken. Each grab sample shall be taken prior to mixing with bagasse, be approximately one pound, and be stored in sealable plastic bags. At the end of each two week period, the six grab samples shall be combined to form a "composite sample", which shall be produced by mixing the individual grab samples into a homogeneous mixture and then cutting out a single representative sample. In accordance with Methods 3050/6010 (EPA Method SW-846) the composite sample shall be analyzed for copper, chromium, and arsenic and reported as ppmw, dry. In addition, the samples shall be analyzed for the fuel heating value (modified ASTM D3286; Btu/lb, dry), and moisture content (modified ASTM D3173; percent by weight). Results of each analysis shall be available within 10 calendar days of making the composite sample. The remaining portion of the homogenous mixture shall be retained on site for use as a control sample to the verify lab test results, if necessary.

   If analysis of a composite sample indicates concentrations in excess of 62.8 ppmw (dry) for copper, 83.3 ppmw (dry) for chromium, or 70.7 ppmw (dry) for arsenic, U.S. Sugar shall take the following actions within 3 working days of receiving the results:

   - Provide results to the Bureau of Air Regulation and the Air Resource Section of the South District Office.
   - Produce two additional "composite samples" from the remainder of the two-week sample and send to a lab for analysis.
   - Review the material screening and segregation procedures with the suppliers.

   Results of each analysis shall be available within 10 calendar days of making the additional composite samples. If one of the additional composite samples also indicates concentrations of copper, chromium, or arsenic exceeding the levels specified above, U.S. Sugar shall discontinue firing wood chips and begin an investigation to evaluate the source of contamination. If the source

and cause can be identified and corrected, U.S. Sugar may submit to the Department's Bureau of Air Regulation a corrective action plan and request the resumption of wood chip firing. U.S. Sugar may resume firing wood chips only with written approval from the Department.

6. If necessary, a wood hogger may used to reduce the wood chip size.
7. Fugitive particulate matter shall be controlled by confinement and/or water spray as necessary.
8. Wood chips shall not be fired solely for the purpose of disposal. Wood chips shall not be fired beyond the amount of heat input needed to support the existing sugar mill operations.
9. Wood chips shall be blended with bagasse to form a mixture of approximately 25% wood chips and 75% bagasse (by volume).
10. The bagasse/wood chip mixture may be fired alone or in combination with additional bagasse or fuel oil. The bagasse/wood chip mixture may be fired as a startup fuel or for normal boiler operations.
11. No more than 133,333 tons of wood chips shall be fired (equivalent to 1,200,000 MMBtu) during the 2004/2005 crop milling and refining season.
12. All air pollution control equipment shall be used to the maximum extent possible.
13. U.S. Sugar shall comply with all current permit conditions. When firing wood chips, the boilers shall comply with all requirements applicable to firing bagasse. If a boiler is unable to comply with a permit condition as a result of firing wood chips, the firing of wood chips shall be discontinued or the boiler shall be shut down.
14. Boilers that are required to be tested for CO, PM, SO_2, or VOC emissions during the upcoming crop season may be tested while firing some of the bagasse/wood chip mixture. Boilers that are required to be tested for NOx emissions during the upcoming crop season shall be tested while firing some of the bagasse/wood chip mixture. The amount of wood chips shall be recorded and noted on the test reports. *{Note: Test results while firing the bagasse/wood chip mixture may be necessary to support a request for the permanent firing of wood chips.}*
15. Within 30 days of the end of the 2004/2005 crop milling and refining season, U.S. Sugar shall submit a report to the Bureau of Air Regulation with the following information: tons of wood chips delivered; tons of wood chips fired; heat input from firing wood chips; tons of bagasse fired; gallons of fuel oil fired; tons of wood chips remaining; tons of bagasse remaining; heat input rate from each fuel (MMBtu); the fate of remaining wood chips and bagasse; and a summary of emissions rates for each boiler tested.
16. This authorization expires on October 1, 2005.

TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

PROJECT

Project No. 0510003-028-AC (Exemption)
Temporary Authorization to Fire Clean Wood Chips from Hurricane Debris

COUNTY

Hendry County, Florida

APPLICANT

United States Sugar Corporation
Clewiston Sugar Mill and Refinery
ARMS Facility ID No. 0510003

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation
Air Permitting South Program

December 29, 2004

{Filename: USSC Clewiston, Wood Chips - TEPD}

1. GENERAL PROJECT INFORMATION

Facility Description and Location

The United States Sugar Corporation (U.S. Sugar) operates an existing sugar mill and refinery (SIC Nos. 2061 and 2062) in Clewiston at the intersection of W.C. Owens Avenue and State Road 832 in Hendry County, Florida. This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to a National Ambient Air Quality Standard (NAAQS).

Facility Regulatory Categories

Title III: The existing facility is a major source of hazardous air pollutants (HAP).

Title IV: The existing facility has no units subject to the acid rain provisions of the Clean Air Act.

Title V: The existing facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.

PSD: The existing facility is a PSD-major facility in accordance with Rule 62-212.400, F.A.C.

Processing Schedule

On November 9, 2004, the Department received an application from the United States Sugar Corporation to temporarily fire wood chips generated from hurricane debris in the boilers at the Clewiston Sugar Mill and Refinery. On December 1, 2004, the Department requested additional information. On December 6, 2004, the Department received the requested additional information making the application complete.

Project Description

After receiving clean wood chips from a supplier, the facility will blend wood chips with bagasse to achieve a mix consisting of approximately 25% wood chips. The mixture will be fed onto the bagasse conveying system for firing in the boilers. Typically, additional bagasse will be fed onto the conveyor so that the boilers will actually fire a blend of much less than 25% wood chips. However, during startups or mill interruptions, the mixture could be as high as 100% wood chips. On a heating value basis, the wood chips will displace bagasse and fuel oil to produce steam for the sugar mill operations. Wood chips will not be fired solely for purposes of disposal. Bagasse remaining at the end of the season will be stored for the startup of next season or sold to other facilities such as a cogeneration plant.

The maximum expected annual heat input rate from firing wood chips will be 1,200,000 MMBtu per year, which is equivalent to approximately 133,333 tons of wood chips per year. This represents approximately 15% of the annual heat input rate over the last two years at this plant. The applicant maintains that firing wood chips should result in cleaner, more efficient combustion for most pollutants than firing 100% bagasse. Based on emission factors for wood and bagasse firing, the applicant does not believe that firing a mixture with 25% wood chips to displace bagasse or oil will result in significant emissions increases.

2. APPLICABLE REGULATIONS

State Regulations

This project is subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The Florida Statutes authorize the Department of Environmental Protection to establish rules and regulations regarding air quality as part of the Florida Administrative Code (F.A.C.). This project is subject to the applicable rules and regulations defined in Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297 of the Florida Administrative Code. In addition, the boilers are subject to the specific conditions of all valid air construction and operation permits.

Federal Regulations

The applicant indicates that the boiler will continue to comply with all existing permit conditions. There will be no increase in the maximum steaming rates or heat input rates as a result of this project. The applicant indicates

that no physical modifications are required to fire wood chips. In addition, firing this fuel will not increase hourly emissions. Therefore, for purposes of the New Source Performance Standards, the project is not considered a modification and no new requirements are triggered.

General PSD Applicability

The Department regulates major air pollution sources in accordance with Florida's Prevention of Significant Deterioration (PSD) program, as approved by the EPA in Florida's State Implementation Plan and defined in Rule 62-212.400, F.A.C. A PSD review is required only in areas currently in attainment with the National Ambient Air Quality Standard (AAQS) or areas designated as "unclassifiable" for a given pollutant. A new facility is considered "major" with respect to PSD if it emits or has the potential to emit: 250 tons per year or more of any regulated air pollutant, or 100 tons per year or more of any regulated air pollutant and the facility belongs to one of the 28 PSD Major Facility Categories (Table 62-212.400-1, F.A.C.), or 5 tons per year of lead.

For new projects at a PSD-major facility, each regulated pollutant is reviewed for PSD applicability based on emissions thresholds known as the Significant Emission Rates listed in Table 62-212.400-2, F.A.C. Pollutant emissions from the project exceeding these rates are considered "significant" and the applicant must employ the Best Available Control Technology (BACT) to minimize emissions of each such pollutant and evaluate the air quality impacts. Although a facility may be "major" with respect to PSD for only one regulated pollutant, it may be required to install BACT controls for several "significant" regulated pollutants. The existing sugar mill is a PSD-major facility located in an area that is currently in attainment with the National Ambient Air Quality Standard (AAQS) or areas designated as "unclassifiable" for these pollutants. Therefore, the project must be reviewed for PSD applicability.

3. PROJECT REVIEW

Applicant's Review

The applicant maintains that wood chips will be fired only to displace bagasse as the primary fuel and fuel oil as a startup and supplemental fuel in support of the sugar mill operations. Based on the application, the following table compares the short-term emission rates from firing bagasse with those from firing wood chips.

Table 3A. Predicted Short-Term Emissions Rates

Pollutant	Emissions, lb/MMBtu						
	Boiler 1	Boiler 2	Boiler 3	Boiler 4	Boiler 7	Boiler 8	Mill Avg.
CO, bagasse	5.67	9.08	8.28	1.63	0.41	0.41	4.25
CO, wood	0.60	0.60	0.60	0.60	0.60	0.60	0.60
NOx, bagasse	0.11	0.12	0.19	0.11	0.20	0.14	0.15
NOx, wood	0.22	0.22	0.22	0.22	0.22	0.22	0.22
PM, bagasse	0.18	0.19	0.16	0.11	0.017	0.026	0.11
PM, wood	same	same	same	same	Same	same	Same
SO_2, bagasse	0.011	0.011	0.011	0.011	0.014	0.06	0.020
SO_2, wood	0.025	0.025	0.025	0.025	0.025	0.025	0.025
VOC, bagasse	0.25	0.25	0.25	0.25	0.022	0.05	0.18
VOC, wood	0.013	0.013	0.013	0.013	0.013	0.013	0.013

Notes:

a. *The emission factors for bagasse are based on the average of the two most recent stack tests or other similar units.*

b. *The emission factors for wood are based on factors in Section 1.6 of EPA's AP-42 emission factor document. The emission factors for NOx, SO_2, and CO emissions are all rated as "A" factors. The emission factor for VOC emissions is rated as a "D" factor.*

Based on this information, the following generalizations are made.

- Wood chips contain less moisture and are expected to result in more efficient combustion. CO and VOC emissions from firing wood will be less than emissions from firing bagasse.
- The AP-42 emission factor for uncontrolled PM emissions from firing wood chips (0.56 lb/MMBtu) is nearly 4 times less than the uncontrolled emission factor for firing bagasse (15.6 lb/ton, equivalent to 2.17 lb/MMBtu). Because each boiler is controlled by a wet scrubber or electrostatic precipitator, actual particulate matter emissions from firing wood chips will be much less than for firing bagasse.
- Although it appears that SO2 emissions from firing wood chips may be 25% higher, wood chips generally contain minimal amounts of sulfur and will not generate significant amounts of SO_2 emissions.
- It appears that NOx emissions from firing wood chips may be higher than when firing bagasse. NOx emissions are highly dependent on the fuel moisture content, boiler design and boiler operation. Boiler 7 is the newest boiler designed for more efficient fuel combustion. Tested NOx emissions when firing bagasse are 0.20 lb/MMBtu, which is nearly equivalent to the emission factor for wood firing (0.22 lb/MMBtu).

Again, wood chips will displace bagasse as the primary fuel and fuel oil as a startup and supplemental fuel in support of the sugar mill operations. Wood chips will not be fired solely for disposal. The facility's annual heat input will not increase. Based on the application, the following table compares maximum annual emission rates from firing bagasse with those from firing wood chips for a heat input rate of 1,200,000 MMBtu per year.

Table 3B. Maximum Annual Emissions Rates

Pollutant	Emissions, Ton per Year						
	Boiler 1	Boiler 2	Boiler 3	Boiler 4	Boiler 7	Boiler 8	Total
CO, bagasse	635.6	917.1	82.9	220.3	34.1	65.4	1955.4
CO, wood	67.2	60.6	6.0	81.3	49.6	95.2	359.9
NOx, bagasse	11.9	11.8	1.9	15.5	16.8	22.2	80.1
NOx, wood	24.7	22.2	2.2	29.8	18.2	22.2	119.3
PM, bagasse	20.0	19.2	1.6	15.3	1.4	4.1	61.6
PM, wood	20.0	19.2	1.6	15.3	1.4	4.1	61.6
SO_2, bagasse	1.2	1.1	0.1	1.5	1.2	9.5	14.6
SO_2, wood	2.8	2.5	0.3	3.4	2.1	4.0	15.1
VOC, bagasse	28.0	25.3	2.5	33.9	1.8	7.9	99.4
VOC, wood	1.5	1.3	0.1	1.8	1.1	2.1	7.9

Notes:

a. The maximum annual emissions rates are based on the emissions factors presented in Table 3A and the firing of up to 1,200,000 MMBtu per year of bagasse or wood chips. This amount represents approximately 15% of the total bagasse heat input averaged for the last two years.

b. The heat input rates to each boiler are based on the request for 1,200,000 MMBtu per year for the facility, the 24-hour average heat input rates to each boiler, and the number of available hours for each boiler from November 1st through September. The predicted boiler heat input rates are: Boiler 1 (224,159 MMBtu/year); Boiler 2 (202,015 MMBtu/year); Boiler 3 (20,015 MMBtu/year); Boiler 4 (271,160 MMBtu/year); Boiler 7 (165,393 MMBtu/year); and Boiler 8 (317,258 MMBtu/year). Also, note that Boiler 8 will not startup until January 2005 and Boiler 3 will shut down when Boiler 8 is commercially operable.

Based on this information, the following generalizations are made.

- The full firing of 1,200,000 MMBtu per year of wood chips is not expected to result in SO_2 or VOC emissions greater than the PSD significant emission rates (40 tons per year).

- No change in the annual emission rate of particulate matter is expected because emissions are controlled by wet scrubbers of electrostatic precipitators.
- CO emissions from firing wood are expected to decrease compared to bagasse firing because of the lower moisture content and higher heating value of the fuel.
- Based on the assumptions and maximum heat input rate of 1,200,000 MMBtu per year, NOx emissions increases are predicted to be just below the PSD significant emission rate of 40 tons per year.

The applicant does not believe that annual emissions will increase as a result of this project and therefore, the project does not trigger PSD preconstruction review.

Department's Review

Bagasse typically contains approximately 50% to 55% moisture by weight and has a heating value of approximately 3600 Btu per pound, wet. The high moisture content can result in incomplete combustion with high CO and VOC emissions, but lower NOx emissions due to the lower firing temperature. In comparison, bark and wet wood contains approximately 30% to 40% moisture by weight and has a heating value of approximately 4500 Btu per pound, wet. The lower moisture content and higher heating value offer more complete combustion, but can result in higher NOx emissions. The following table compares estimated emission rates from firing bagasse and wood.

Table 3C. Emission Factor Comparison

Pollutant	Bagasse		Wood	
	lb/MMBtu	Comments	lb/MMBtu	Comments
CO	2.0 – 6.5	Estimate based on similar unit tests	0.60	AP-42, Section 1.6
NOx	0.17	AP-42, Section 1.8	0.22	AP-42, Section 1.6
PM	2.17	AP-42, Section 1.8, uncontrolled	0.56	AP-42, Section 1.6, uncontrolled
SO_2	0.01	Estimate based on similar unit tests	0.025	AP-42, Section 1.6
VOC	0.25	Estimate based on similar unit tests	0.04	AP-42, Section 1.6

Based on the above information, only NOx and SO_2 emissions appear to be greater for wood firing than bagasse firing. However, the sulfur content of wood is so low that sulfur dioxide emissions would also be very low. Therefore, only NOx emissions present any real potential for increased emissions.

NOx emissions are primarily a function of the combustion temperatures and can fluctuate substantially based on the moisture content of a carbonaceous fuel. It is unknown whether the firing of a mixture of 25% wood/75% bagasse would actually raise furnace temperatures enough to increase NOx emissions. It seems unlikely because there are several other influencing factors such as the furnace residence time, the mixing of flue gases, and overall boiler operation. It is noted that the difference between the AP-42 NOx emission factors for wood (0.22 lb/MMBtu) and bagasse (0.17 lb/MMBtu) is only 0.05 lb/MMBtu. Assuming that NOx emissions would increase by this amount, the requested maximum heat input rate of 1,200,000 MMBtu would result in an additional 30 tons per year of NOx emissions. Even under this conservative scenario, NOx emissions from the project are below the PSD significant emission rate of 40 tons per year.

The Department agrees with the applicant that NOx emissions will not likely increase when fired in a mixture of 25% wood chips/75% bagasse. This is especially true if the wood chips actually displace fuel oil as a supplemental and startup fuel. The NOx emission factor from oil firing is 0.33 lb/MMBtu, which is about 50% higher than the factor for wood.

The Department also checked the production records for the last five years of operation to evaluate the variability of plant operations. From the crop season beginning in 1999 through the crop season ending in 2004, the facility averaged: 3,775,550 tons of sugarcane processed, 1,127,773 tons of bagasse fired, and 864,366,000

pounds of raw sugar produced. The ratio of bagasse fired to sugarcane processed averaged 0.301 ton bagasse/ton sugarcane and varied from year-to-year by less than 15%. The ratio of raw sugar produced to sugarcane processed averaged 288 pounds of raw sugar/tons of sugarcane and varied by less than 6% from year-to-year. In addition to a moderately steady annual sugarcane processing rate, this shows relatively low fluctuations in the amount of bagasse needed to process one ton of cane and the amount of raw sugar produced from one ton of cane. With damage to the cane fields from the hurricanes, it can reasonably be expected that the annual processing rate, production rate, and heat input requirements will be much less than usual.

Based on the application and available information, the Department has reasonable assurance that the temporary project will not result in a significant increase in emissions. Therefore, is not subject to PSD preconstruction review. However, the Department does note that firing even relatively small amounts of wood chips *in addition to* the normal amounts of bagasse and fuel oil would likely trigger a PSD preconstruction review. Any authorization to fire wood chips should be conditioned so that it is clear that wood chips will displace bagasse and fuel oil.

4. CONCLUSION

Rule 62-4.040(1)(b), F.A.C. states the following, "Any existing or proposed installation which the Department shall determine does not or will not cause the issuance of air or water contaminants in sufficient quantity, with respect to its character, quality or content, and the circumstances surrounding its location, use and operation, as to contribute significantly to the pollution problems within the State, so that the regulation thereof is not reasonably justified. Such a determination is agency action and is subject to Chapter 120, F.S. Such determination shall be made in writing and filed by the Department as a public record. Such determination may be revoked if the installation is substantially modified or the basis for the exemption is determined to be materially incorrect." In accordance with this rule, the Department intends is issue the applicant a temporary, case-by-case exemption from the requirement to obtain an air construction permit based on the following information.

- The available wood chips have been generated by the recent hurricanes in Florida.
- The wood chips will consist of clean dry wood and vegetative materials substantially free of painted or treated materials.
- The request is limited to the temporary firing of wood chips generated from the hurricanes for one crop season.
- The boilers currently fire bagasse, a carbonaceous fuel, and are capable of firing wood chips.
- The boilers utilize wet scrubbers to control particulate matter emissions.
- Wood chips will constitute less than 25% of the bagasse/wood mixture fired in the boilers.
- Based on the available information, hourly emissions are not expected to increase as a result of firing wood chips.
- Wood chips will only be fired to displace bagasse as the primary fuel and fuel oil as a startup and supplemental fuel. Therefore, annual emissions are not expected to increase as a result of firing wood chips.
- No more than 133,333 tons of wood chips will be fired through the current season.
- Sampling and analysis of the wood chips will be required to ensure that the wood chips do not contain foreign materials.
- The boilers will comply with all current permit conditions.

The existing sugar mill boilers provide a means of disposing of clean dry wood materials generated from the recent hurricanes with the opportunity for energy recovery in the form of steam. The applicant has assured the Department that any steam generated in the boilers will be used for the existing mill operations and not simply vented to the atmosphere. At the proposed rates, it does not appear that the temporary project will increase emissions. Bagasse and wood chips that remain after the milling season may be sold to a cogeneration plant. Any permanent request to fire wood chips will require an air construction permit.

There is reasonable assurance that the existing boilers will continue to comply with all existing permit conditions and that that this project will not result in increased emissions. The temporary exemption will include conditions based on the applicant's representations and those necessary to support this conclusion. This determination may be revoked if the basis for the exemption is determined to be materially incorrect. Jeff Koerner is the project engineer responsible for reviewing the application and drafting the exemption. Additional details of this analysis may be obtained by contacting the project engineer at the Department's Bureau of Air Regulation at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

Memorandum

Florida Department of Environmental Protection

TO: Trina Vielhauer, Bureau of Air Regulation

THRU: Al Linero, Air Permitting South

FROM: Jeff Koerner, Air Permitting South

DATE: December 20, 2004

SUBJECT: Exemption from Requirement to Obtain an Air Construction Permit
U.S. Sugar Corporation, Clewiston Sugar Mill and Refinery
Temporary Authorization to Fire Wood Chips Generated from Hurricane Debris
Project No. 0510003-028-AC

Attached for your approval and signature is a letter exempting the U.S. Sugar Corporation from the requirement to obtain an air construction permit to temporarily fire wood chips generated from the recent hurricanes. The existing facility currently operates five sugar mill boilers that fire bagasse, which is a carbonaceous fuel. Boiler 8 is currently under construction and is expected to startup in late January. On a heat input basis, wood chips will displace an equivalent amount of bagasse as the primary fuel and No. 6 fuel oil as a startup and supplemental fuel. Based on the available information, the project will not result in significant emissions increases.

Day #74 is February 17, 2005. I recommend your approval and signature.

Attachments

Department of Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

March 11, 2005

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. William A. Raiola, V.P. of Sugar Processing Operations
United States Sugar Corporation
Clewiston Sugar Mill and Refinery
111 Ponce DeLeon Avenue
Clewiston, FL 33440

Re: Project No. 0510003-028-AC
United States Sugar Corporation - Clewiston Sugar Mill and Refinery
Temporary Firing of Wood Chips – Hurricane Related
Exemption from the Requirement to Obtain an Air Construction Permit

Dear Mr. Raiola:

On December 29, 2004, the Department issued an exemption from the requirement to obtain an air construction permit for the temporary firing of wood chips generated from the 2004 hurricanes. The exemption was restricted to no more than 133,333 tons of wood chips from hurricane-generated wood waste. To date, U.S. Sugar has accumulated approximately 6000 tons of such material.

In a letter dated February 2, 2005, the City Manager of Clewiston requested U.S. Sugar's cooperation in clearing wooded areas near power lines in preparation for the upcoming 2005 hurricane season. In turn, U.S. Sugar Corporation requested the Department's approval for firing the wood chipped from the tree clearing operations under the current exemption for hurricane-generated materials. In addition, U.S. Sugar agrees to: lower the total wood chip material from 133,333 to 60,000 tons; use wood chips to displace bagasse and oil; fire wood chips for energy recovery in support of the sugar mill and refinery (not solely disposal); fire wood chips in the same manner as the current exemption; provide the same fuel quality monitoring; and maintain records of the activity.

Determination: The Department approves your request as conditioned by the provisions attached to this letter. Pursuant to Rule 62.4.040(1)(b), F.A.C., the Department exempts this temporary project from the requirement to obtain an air construction permit. This letter of exemption supersedes the previous letter of exemption issued on December 29, 2004. This determination may be revoked if the proposed activity is substantially modified or the basis for the exemption is determined to be materially incorrect. A copy of this letter shall be maintained at the site of the proposed activity. This permitting decision is made pursuant to Chapter 403, Florida Statutes.

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210, and 62-212 of the Florida Administrative Code (F.A.C.). The Department of Environmental Protection's Bureau of Air Regulation is the Permitting Authority responsible for making a determination for this project. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida 32301. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/488-0114.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by the applicant or any of the parties listed below must be filed within twenty-one (21) days of receipt of this Written Notice of Exemption. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within twenty-one (21) days of publication of a Public Notice or within twenty-one (21) days of receipt of this Written Notice of Exemption, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within twenty-one (21) days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when each petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Written Notice of Exemption. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available in this proceeding.

Effective Date: This permitting decision is final and effective on the date filed with the clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition pursuant to Rule 62-110.106, F.A.C., and the petition conforms to the content requirements of Rules 28-106.201 and 28-106.301, F.A.C. Upon timely filing of a petition or a request for extension of time, this action will not be effective until further order of the Department.

Appeal: Any party to this permitting decision (order) has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, and by

filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within thirty (30) days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

Trina Vielhauer, Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this order was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 3/11/05 to the persons listed:

Mr. William A. Raiola, U.S. Sugar*
Mr. Peter Briggs, U.S. Sugar
Mr. Don Griffin, U.S. Sugar
Mr. David Buff, Golder Associates Inc.
Mr. Ron Blackburn, SD Office
Mr. Jim Little, EPA Region 4

Clerk Stamp

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

(Clerk) 3/11/05 (Date)

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. William A. Raiola, V.P. of Sugar Processing Operations
Clewiston Sugar Mill and Refinery
United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, Florida 33440

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery 3/16/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7000 1670 0013 3109 9397

PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

7000 1670 0013 3109 9397

Mr. William A. Raiola, V.P. of Sugar
Processing Operations
Clewiston Sugar Mill and Refinery
United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, Florida 33440

PS Form 3800, May 2000 See Reverse for Instructions.

Subject to the following provisions and restrictions, the U.S. Sugar Corporation (U.S. Sugar) is authorized to temporarily fire wood chips generated hurricane-related activities in the existing sugar mill boilers.

1. Wood chips shall only be fired to displace bagasse and fuel oil for energy recovery in support of the sugar mill operations.
2. Wood chips shall consist of clean dry wood and vegetative materials generated from the 2004 hurricanes in Florida or from tree clearing activities conducted in preparation for the 2005 hurricane season.
3. U.S. Sugar shall work with suppliers to ensure that the wood chips are substantially free of plastics, rubber, glass, painted wood, chemically treated wood, and non-combustible materials. U.S. Sugar shall require its suppliers to implement procedures to remove these unwanted materials and to produce wood chips consisting of clean dry wood and vegetative materials. Such procedures would include, but are not limited to, the use of heavy equipment, magnetic separation, mechanical screening, visual inspection, manual sorting, etc. The firing of any household garbage, hazardous wastes, or toxic materials is prohibited. A list of suppliers and contact information shall be maintained on site.
4. U.S. Sugar shall take the necessary precautions to ensure that wood chips delivered to the facility contain only incidental amounts of plastics, rubber, glass, painted wood, chemically treated wood, and other non-combustible materials. U.S. Sugar shall not knowingly accept or burn these unwanted materials. An adequate staff shall be properly trained as "Fuel Handlers" to visually inspect deliveries of wood chips in the truck receiving area. Wood chip loads that contain any amounts of household garbage, hazardous wastes, or toxic materials shall be immediately rejected. Wood chip loads that contain substantial amounts of plastics, rubber, glass, painted wood, chemically treated wood, and other non-combustible materials shall also be rejected.
5. Each week, at least three grab samples of wood chips delivered to the facility shall be taken. Each grab sample shall be taken prior to mixing with bagasse, be approximately one pound, and be stored in sealable plastic bags. At the end of each two week period, the six grab samples shall be combined to form a "composite sample", which shall be produced by mixing the individual grab samples into a homogeneous mixture and then cutting out a single representative sample. In accordance with Methods 3050/6010 (EPA Method SW-846) the composite sample shall be analyzed for copper, chromium, and arsenic and reported as ppmw, dry. In addition, the samples shall be analyzed for the fuel heating value (modified ASTM D3286; Btu/lb, dry), and moisture content (modified ASTM D3173; percent by weight). Results of each analysis shall be available within 10 calendar days of making the composite sample. The remaining portion of the homogenous mixture shall be retained on site for use as a control sample to the verify lab test results, if necessary.

   If analysis of a composite sample indicates concentrations in excess of 62.8 ppmw (dry) for copper, 83.3 ppmw (dry) for chromium, or 70.7 ppmw (dry) for arsenic, U.S. Sugar shall take the following actions within 3 working days of receiving the results:

   - Provide results to the Bureau of Air Regulation and the Air Resource Section of the South District Office.
   - Produce two additional "composite samples" from the remainder of the two-week sample and send to a lab for analysis.
   - Review the material screening and segregation procedures with the suppliers.

   Results of each analysis shall be available within 10 calendar days of making the additional composite samples. If one of the additional composite samples also indicates concentrations of

copper, chromium, or arsenic exceeding the levels specified above, U.S. Sugar shall discontinue firing wood chips and begin an investigation to evaluate the source of contamination. If the source and cause can be identified and corrected, U.S. Sugar may submit to the Department's Bureau of Air Regulation a corrective action plan and request the resumption of wood chip firing. U.S. Sugar may resume firing wood chips only with written approval from the Department.

6. If necessary, a wood hogger may used to reduce the wood chip size.
7. Fugitive particulate matter shall be controlled by confinement and/or water spray as necessary.
8. Wood chips shall not be fired solely for the purpose of disposal. Wood chips shall not be fired beyond the amount of heat input needed to support the existing sugar mill operations.
9. Wood chips shall be blended with bagasse to form a mixture of approximately 25% wood chips and 75% bagasse (by volume).
10. The bagasse/wood chip mixture may be fired alone or in combination with additional bagasse or fuel oil. The bagasse/wood chip mixture may be fired as a startup fuel or for normal boiler operations.
11. No more than 60,000 tons of wood chips shall be fired (equivalent to 270,000 MMBtu) during the 2004/2005 crop milling and refining season.
12. All air pollution control equipment shall be used to the maximum extent possible.
13. U.S. Sugar shall comply with all current permit conditions. When firing wood chips, the boilers shall comply with all requirements applicable to firing bagasse. If a boiler is unable to comply with a permit condition as a result of firing wood chips, the firing of wood chips shall be discontinued or the boiler shall be shut down.
14. Boilers that are required to be tested for CO, PM, SO_2, or VOC emissions during the 2004/2005 crop season may be tested while firing some of the bagasse/wood chip mixture. Boilers that are required to be tested for NOx emissions during the 2004/2005 crop season shall be tested while firing some of the bagasse/wood chip mixture. The amount of wood chips shall be recorded and noted on the test reports. *{Note: Test results while firing the bagasse/wood chip mixture may be necessary to support a request for the permanent firing of wood chips.}*
15. Within 30 days of the end of the 2004/2005 crop milling and refining season, U.S. Sugar shall submit a report to the Bureau of Air Regulation with the following information: tons of wood chips delivered; tons of wood chips fired; heat input from firing wood chips; tons of bagasse fired; gallons of fuel oil fired; tons of wood chips remaining; tons of bagasse remaining; heat input rate from each fuel (MMBtu); the fate of remaining wood chips and bagasse; and a summary of emissions rates for each boiler tested.
16. This authorization expires on October 1, 2005.

Florida Department of Environmental Protection

Memorandum

TO: Trina Vielhauer, Bureau of Air Regulation

THRU: Al Linero, Air Permitting South

FROM: Jeff Koerner, Air Permitting South

DATE: March 11, 2005

SUBJECT: Exemption from Requirement to Obtain an Air Construction Permit, Revised
U.S. Sugar Corporation, Clewiston Sugar Mill and Refinery
Temporary Authorization to Fire Wood Chips – Hurricane Related
Project No. 0510003-028-AC

In December of 2004, we issued an exemption to U.S. Sugar that provides temporary authorization to fire wood chips generated from the 2004 Florida hurricanes. The existing facility currently operates five sugar mill boilers that fire bagasse, which is also carbonaceous fuel. Boiler 8 is currently under construction and is expected to startup in late January. On a heat input basis, wood chips will displace an equivalent amount of bagasse as the primary fuel and No. 6 fuel oil as a startup and supplemental fuel. To date, U.S. Sugar has accumulated approximately 6000 tons of such material.

In a letter dated February 2, 2005, the City Manager of Clewiston requested U.S. Sugar's cooperation in clearing wooded areas near power lines in preparation for the upcoming 2005 hurricane season. In turn, U.S. Sugar Corporation requested the Department's approval for firing wood chipped from the tree clearing operations under the current exemption for hurricane-generated materials. In addition, U.S. Sugar agrees to: reduce the total wood chip material from 133,333 to 60,000 tons; use wood chips to displace bagasse and oil; fire wood chips for energy recovery in support of the sugar mill and refinery (not solely disposal); fire wood chips in the same manner as the current exemption; provide the same fuel quality monitoring; and maintain records of the activity. Based on available information, the request will not result in significant emissions increases because wood will be used to displace bagasse and fuel oil. See the attached worksheet.

Attached for your approval and signature is a letter revising the current exemption to also include the firing of wood chips generated from tree clearing activities conducted in preparation for the 2005 hurricane season and reduce total wood chip firing from 133,333 to 60,000 tons.

I recommend your approval and signature.

Attachments

ATTACHMENT A
Project No. 0510003-028-AC
U.S. Sugar Corporation - Clewiston Sugar Mill and Refinery
Temporary Authorization to Fire Wood Chips - Hurricane Related

Fuel Information

9.0	=	MMBtu/ton, wood heating value (wet)
7.2	=	MMBtu/ton, bagasse heating value (wet)
0.142	=	MMBtu/gallon No. 6 oil
270,000	=	MMBtu/year from wood chips (~ 25% of the 2003 annual heat input from bagasse)
30,000	=	tons of wood chips/year (equivalent)
37,500	=	tons bagasse/year (equivalent)
1,901,408	=	gallons of fuel oil/year (equivalent)

Short Term Emissions Rates

Boiler	lb/MMBtu	CO, lb/MMBtu			NOx, lb/MMBtu			PM, lb/MMBtu			SO_2, lb/MMBtu			VOC, lb/MMBtu		
		Bag.	Wood	Oil	Bag.	Wood	Oil	Bag.	Wood	Oil	Bag.	Wood	Oil	Bag.	Wood	Oil
1	496.0	5.671	0.600	0.035	0.106	0.220	0.331	0.178	0.178	0.087	0.011	0.025	1.769	0.250	0.013	0.002
2	447.0	9.080	0.600	0.035	0.117	0.220	0.331	0.190	0.190	0.087	0.011	0.025	1.769	0.250	0.013	0.002
3	265.0	8.279	0.600	0.035	0.188	0.220	0.331	0.162	0.162	0.087	0.011	0.025	1.769	0.250	0.013	0.002
4	600.0	1.625	0.600	0.035	0.114	0.220	0.331	0.113	0.113	0.087	0.011	0.025	1.769	0.250	0.013	0.002
7	738.0	0.412	0.600	0.035	0.203	0.220	0.331	0.017	0.017	0.087	0.014	0.025	0.055	0.022	0.013	0.002
8	936.0	0.380	0.600	0.035	0.140	0.140	0.331	0.026	0.026	0.087	0.060	0.025	0.055	0.050	0.013	0.002
Average	---	4.241	0.600	0.035	0.145	0.207	0.331	0.114	0.114	0.087	0.020	0.025	1.198	0.179	0.013	0.002
Total	3,482.0															

Note: Emissions factors are based on: bagasse (tested rates); wood (AP-42, Section 1.6); fuel oil (AP-42, Section 1.3). Particulate matter emissions from wood firing were conservatively assumed to be the same as for bagasse firing with control by wet scrubber.

Annual Emission Rates

Boiler	MMBtu/yr	CO, TPY			NOx, TPY			PM, TPY			SO_2, TPY			VOC, TPY		
		Bag.	**Wood**	Oil	Bag.	**Wood**	Oil	Bag.	**Wood**	Oil	Bag.	**Wood**	Oil	Bag.	**Wood**	Oil
1	38,461	109.1	**11.5**	0.7	2.0	**4.2**	6.4	3.4	**3.4**	1.7	0.2	**0.5**	34.0	4.8	**0.2**	0.0
2	34,661	157.4	**10.4**	0.6	2.0	**3.8**	5.7	3.3	**3.3**	1.5	0.2	**0.4**	30.7	4.3	**0.2**	0.0
3	20,549	85.1	**6.2**	0.4	1.9	**2.3**	3.4	1.7	**1.7**	0.9	0.1	**0.3**	18.2	2.6	**0.1**	0.0
4	46,525	37.8	**14.0**	0.8	2.7	**5.1**	7.7	2.6	**2.6**	2.0	0.3	**0.6**	41.2	5.8	**0.3**	0.0
7	57,226	11.8	**17.2**	1.0	5.8	**6.3**	9.5	0.5	**0.5**	2.5	0.4	**0.7**	1.6	0.6	**0.4**	0.1
8	72,579	13.8	**21.8**	1.3	5.1	**5.1**	12.0	0.9	**0.9**	3.2	2.2	**0.9**	2.0	1.8	**0.5**	0.1
Total	270,000	414.9	**81.0**	4.7	19.5	**26.8**	44.7	12.4	**12.4**	11.7	3.3	**3.4**	127.6	20.0	**1.8**	0.3

Note: The heat input to each boiler is concervativley estimated by prorating the total heat input (270,000 MMBtu/hour) by the permitted capacity of each boiler. The annual heat input rate to the facility for the last two years averaged 8,774,911 MMBtu per year. The request to fire 270,000 MMBtu is equivalent to firing 30,000 tons of wood chips, which is less than 5% of the average annual heat input rate over the last two years.

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. William A. Raiola, V.P. of Sugar Processing Operations
Clewiston Sugar Mill and Refinery
United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, Florida 33440

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery 3/16/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

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PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
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Mr. William A. Raiola, V.P. of Sugar Processing Operations
Clewiston Sugar Mill and Refinery
United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, Florida 33440

PS Form 3800, May 2000 See Reverse for Instructions

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- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. William A. Raiola
V.P. of Sugar Processing
Operations
Clewiston Sugar Mill and Refinery
111 Ponce DeLeon Avenue
Clewiston, Florida 33440

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery 1/3/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7000 1670 0013 3109 9021

PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
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Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To: Mr. William A. Raiola
Street, Apt. No.; or PO Box No. Clewiston Sugar Mill and Reginery
111 Ponce DeLeon Avenue
City, State, ZIP+4 Clewiston, Florida 33440

PS Form 3800, May 2000 See Reverse for Instructions

7000 1670 0013 3109 9021

APPLICATION FOR WOODCHIP BURNING IN BOILER NOS. 1, 2, 3, 4, 7, AND 8

U.S. SUGAR CORPORATION
CLEWISTON MILL

Prepared For:
United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, Florida 33440

Prepared By:
Golder Associates Inc.
6241 NW 23rd Street, Suite 500
Gainesville, Florida 32653-1500

November 2004
0437576

DISTRIBUTION:
4 Copies – FDEP
2 Copies – U.S. Sugar Corporation
1 Copy – Golder Associates Inc.

Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit for a proposed project:

- subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- at an existing federally enforceable state air operation permit (FESOP) or Title V permitted facility.

Air Operation Permit – Use this form to apply for:

- an initial federally enforceable state air operation permit (FESOP); or
- an initial/revised/renewal Title V air operation permit.

Air Construction Permit & Revised/Renewal Title V Air Operation Permit (Concurrent Processing Option) – Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: **United States Sugar Corporation**	
2. Site Name: **U.S. Sugar Clewiston Mill**	
3. Facility Identification Number: **0510003**	
4. Facility Location...: Street Address or Other Locator: **W.C. Owens Ave. and S.R. 832** City: **Clewiston** County: **Hendry** Zip Code: **33440**	
5. Relocatable Facility? ☐ Yes ☒ No	6. Existing Title V Permitted Facility? ☒ Yes ☐ No

Application Contact

1. Application Contact Name: **William A. Raiola, Vice President, Sugar Processing Operations**
2. Application Contact Mailing Address... Organization/Firm: **United States Sugar Corporation** Street Address: **111 Ponce DeLeon Ave.** City: **Clewiston** State: **Florida** Zip Code: **33440**
3. Application Contact Telephone Numbers... Telephone: **(863) 983-8121** ext. Fax: **(863) 902-2729**
4. Application Contact Email Address: **wraiola@ussugar.com**

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	11-9-04
2. Project Number(s):	0510003-038-AC
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

APPLICATION INFORMATION

Purpose of Application

This application for air permit is submitted to obtain: (Check one)

Air Construction Permit

☐ Air construction permit.

Air Operation Permit

☐ Initial Title V air operation permit.

☒ Title V air operation permit revision.

☐ Title V air operation permit renewal.

☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.

☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

☐ Air construction permit and Title V permit revision, incorporating the proposed project.

☐ Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

☐ I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

Air Construction Permit application to fire Boiler Nos. 1, 2, 3, 4, 7, and 8 with clean wood/bark for a period up to 1 year.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
001	Boiler No. 1	AC1A	n/a
002	Bolier No. 2	AC1A	n/a
003	Boiler No. 3	AC1A	n/a
009	Boiler No. 4	AC1A	n/a
014	Bolier No. 7	AC1A	n/a
028	Boiler No. 8	AC1A	n/a

Application Processing Fee

Check one: ☐ Attached - Amount: $_____ ☒ Not Applicable

APPLICATION INFORMATION

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name :

2. Owner/Authorized Representative Mailing Address...
   Organization/Firm:
   Street Address:
   City: State: Zip Code:

3. Owner/Authorized Representative Telephone Numbers...
   Telephone: ( ) - ext. Fax: ( ) -

4. Owner/Authorized Representative Email Address:

5. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other requirements identified in this application to which the facility is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit.

   _____ _____

   Signature Date

APPLICATION INFORMATION

Application Responsible Official Certification

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name:
   William A. Raiola, Vice President, Sugar Processing Operations

2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):
   - ☒ For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.
   - ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively.
   - ☐ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.
   - ☐ The designated representative at an Acid Rain source.

3. Application Responsible Official Mailing Address...
   Organization/Firm: **United States Sugar Corporation**
   Street Address: **111 Ponce DeLeon Ave.**
   City: **Clewiston** State: **FL** Zip Code: **33440**

4. Application Responsible Official Telephone Numbers...
   Telephone: **(863) 983-8121** ext. Fax: **(863) 902-2729**

5. Application Responsible Official Email Address: **wraiola@ussugar.com**

6. Application Responsible Official Certification:

   I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.

   Signature 11/5/04 Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: **David A. Buff**
   Registration Number: **19011**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Golder Associates Inc.****
   Street Address: **6241 NW 23rd Street, Suite 500**
   City: **Gainesville** State: **FL** Zip Code: **32653-1500**
3. Professional Engineer Telephone Numbers...
   Telephone: **(352) 336-5600** ext. **545** Fax: **(352) 336-6603**
4. Professional Engineer Email Address: **dbuff@golder.com**
5. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

(3) If the purpose of this application is to obtain a Title V air operation permit (check here ☐, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.

(4) If the purpose of this application is to obtain an air construction permit (check here ☐, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here ☐, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here ☒, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

David A. Buff
Signature

11/5/04
Date

(seal)

* Attach any exception to certification statement.
** Board of Professional Engineers Certificate of Authorization #00001670

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone **17** East (km) **506.1** North (km) **2956.9**		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) **26/44/06** Longitude (DD/MM/SS) **80/56/19**	
3. Governmental Facility Code: **0**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **20**	6. Facility SIC(s): **2061, 2062**
7. Facility Comment :			

Facility Contact

1. Facility Contact Name: **Wiliam A. Raiola, Vice President, Sugar Processing Operations**
2. Facility Contact Mailing Address... Organization/Firm: **United States Sugar Corporation** Street Address: **111 Ponce DeLeon Ave.** City: **Clewiston** State: **FL** Zip Code: **33440**
3. Facility Contact Telephone Numbers: Telephone: **(863) 983-8121** ext. Fax: **(863) 902-2729**
4. Facility Contact Email Address: **wraiola@ussugar.com**

Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I. that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Facility Primary Responsible Official Telephone Numbers... Telephone: ( ) - ext. Fax: ( ) -
4. Facility Primary Responsible Official Email Address:

Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a "major source" and a "synthetic minor source."

1. ☐ Small Business Stationary Source	☐ Unknown
2. ☐ Synthetic Non-Title V Source	
3. ☒ Title V Source	
4. ☒ Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. ☐ Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. ☒ Major Source of Hazardous Air Pollutants (HAPs)	
7. ☐ Synthetic Minor Source of HAPs	
8. ☒ One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. ☐ One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. ☒ One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. ☐ Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment:	

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
Particulate Matter Total - PM	A	No
Sulfur Dioxide - SO_2	A	No
Nitrogen Oxides - NO_x	A	No
Carbon Monoxide - CO	A	No
Particulate Matter - PM_{10}	A	No
Sulfuric Acid Mist - SAM	A	No
Total Hazardous Air Pollutants - HAPs	A	No
Volatile Organic Compounds - VOC	A	No
Acetaldehyde - H001	A	No
Benzene - H017	A	No
Formaldehyde - H095	A	No
Phenol - H144	A	No
Polycyclic Organic Matter - H151	A	No
Styrene - H163	A	No
Toluene - H169	A	No
Naphthalene - H132	A	No
Dibenzofuran - H058	A	No

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions Cap	2. Facility Wide Cap [Y or N]? (all units)	3. Emissions Unit ID No.s Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap

7. Facility-Wide or Multi-Unit Emissions Cap Comment:

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID:____ ☒ Previously Submitted, Date:**3/2003**
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID:____ ☒ Previously Submitted, Date:**3/2003**
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID:_____ ☐ Previously Submitted, Date:____

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location: ☐ Attached, Document ID:_____ ☒ Not Applicable (existing permitted facility)
2. Description of Proposed Construction or Modification: ☐ Attached, Document ID: ____
3. Rule Applicability Analysis: ☐ Attached, Document ID: ____
4. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable
6. Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable
7. Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(5)(h)5., F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(5)(e)1. and 62-212.500(4)(e), F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID:____ ☒ Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities (Required for initial/renewal applications only):
   ☐ Attached, Document ID:____ ☒ Not Applicable (revision application)

2. Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought):
   ☒ Attached, Document ID: **Attachment A**
   ☐ Not Applicable (revision application with no change in applicable requirements)

3. Compliance Report and Plan (Required for all initial/revision/renewal applications):
   ☐ Attached, Document ID:____
   Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.

4. List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only):
   ☐ Attached, Document ID:____
   ☐ Equipment/Activities On site but Not Required to be Individually Listed
   ☒ Not Applicable

5. Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only) :
   ☐ Attached, Document ID:____ ☒ Not Applicable

6. Requested Changes to Current Title V Air Operation Permit:
   ☒ Attached, Document ID: **Attachment A** ☐ Not Applicable

Additional Requirements Comment

BOILER NO. 1

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; All Boiler Sizes**		
2. Source Classification Code (SCC): **1-02-011-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **68.89**	5. Maximum Annual Rate: **603,467**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **7.2**
10. Segment Comment: **Based on 496 MMBtu/hr and a heating value of 3,600 Btu/lb (wet) for bagasse. Annual usage based on 8,760 hours per year of operation.**		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Residual Oil; Grade 6**		
2. Source Classification Code (SCC): **1-02-004-01**	3. SCC Units: **1000 Gallons Burned**	
4. Maximum Hourly Rate: **1.500**	5. Maximum Annual Rate: **13,140**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **2.5**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **150**
10. Segment Comment: **Maximum hourly and annual rates based on proposed 1,500 gal/hr and 8,760 hr/yr for No. 6 fuel oil. Also includes facility-generated on-spec used oil and up to 500 cubic yards per season of petroleum contaminated soils.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): **External combustion boilers; Industrial; Wood/Bark Waste (>50,000 lb/hr steam)**		
2. Source Classification Code (SCC): **1-02-009-02**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **55.11**	5. Maximum Annual Rate: **24,906**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **9**
10. Segment Comment: **Maximum hourly rate based on 496 MMBtu/hr and a heating value of 4,500 Btu/lb (wet) for wood/bark waste. Maximum annual usage based on 224,159 MMBtu/yr. See Attachment A, Table 1.**		

Segment Description and Rate: Segment _ of

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

BOILER NO. 2

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; All Boiler Sizes**		
2. Source Classification Code (SCC): **1-02-011-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **62.08**	5. Maximum Annual Rate: **543,850**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **7.2**
10. Segment Comment: **Based on 447 MMBtu/hr and a heating value of 3,600 Btu/lb (wet) for bagasse. Annual usage based on 8,760 hours per year of operation.**		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; Distillate Oil; Grades 1 and 2**		
2. Source Classification Code (SCC): **1-02-005-01**	3. SCC Units: **1,000 Gallons Burned**	
4. Maximum Hourly Rate: **1.500**	5. Maximum Annual Rate: **13,140**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **2.5**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **150**
10. Segment Comment: **Maximum hourly and annual rates based on proposed 1,500 gal/hr and 8,760 hr/yr for No. 6 fuel oil. Also includes facility-generated on-spec used oil and up to 500 cubic yards per season of petroleum contaminated soils.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Wood/Bark Waste (>50,000 lb/hr Steam)**		
2. Source Classification Code (SCC): **1-02-009-02**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **49.67**	5. Maximum Annual Rate: **22,446**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **9**
10. Segment Comment: **Maximum hourly rate based on 447 MMBtu/hr and a heating value of 4,500 Btu/lb (wet) for wood/bark waste. Maximum annual usage based on 202,015 MMBtu/yr. See Attachment A, Table 1.**		

Segment Description and Rate: Segment _ of

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

BOILER NO. 3

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; All Boiler Sizes**		
2. Source Classification Code (SCC): **1-02-011-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **36.81**	5. Maximum Annual Rate: **322,417**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **7.2**
10. Segment Comment: **Based on 265 MMBtu/hr and a heating value of 3,600 Btu/lb (wet) for bagasse. Annual usage based on 8,760 hours per year of operation.**		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Residual Oil; Grade No. 6**		
2. Source Classification Code (SCC): **1-02-004-01**	3. SCC Units: **1,000 Gallons Burned**	
4. Maximum Hourly Rate: **0.9**	5. Maximum Annual Rate: **7,884**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **2.5**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **150**
10. Segment Comment: **Maximum hourly and annual rates based on 900 gal/hr and 8,760 hr/yr. Also includes facility-generated on-spec used oil and up to 500 cubic yards per season of petroleum contaminated soils.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Wood/Bark Waste (>50,000 lb/hr Steam)**		
2. Source Classification Code (SCC): **1-02-009-02**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **29.44**	5. Maximum Annual Rate: **2,224**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **9**
10. Segment Comment: **Maximum hourly rate based on 265 MMBtu/hr and a heating value of 4,500 Btu/lb (wet) for wood/bark waste. Maximum annual usage based on 20,015 MMBtu/yr. See Attachment A, Table 1.**		

Segment Description and Rate: Segment _ of

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

BOILER NO. 4

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; All Boiler Sizes**		
2. Source Classification Code (SCC): **1-02-011-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **87.92**	5. Maximum Annual Rate: **400,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **7.2**
10. Segment Comment: **Based on 633 MMBtu/hr and 3,600 Btu/lb wet bagasse. Annual rate is maximum allowable from Permit No. 0510003-010-AC/PSD-FL-272A.**		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; Distillate Oil; Grades 1 and 2**		
2. Source Classification Code (SCC): **1-02-005-01**	3. SCC Units: **Thousand Gallons Burned**	
4. Maximum Hourly Rate: **2.417**	5. Maximum Annual Rate: **500**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.4**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **135**
10. Segment Comment: **Maximum hourly and annual rates based on proposed 326.25 MMBtu/hr and a current limit of 500,000 gallons of fuel oil per year (Permit No. 0510003-018-AC). Includes combustion of facility-generated on-specification used oil.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Wood/Bark Waste (>50,000 lb/hr Steam)**		
2. Source Classification Code (SCC): **1-02-009-02**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **70.33**	5. Maximum Annual Rate: **30,129**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **9**
10. Segment Comment: **Maximum hourly rate based on 633 MMBtu/hr and a heating value of 4,500 Btu/lb (wet) for wood/bark waste. Maximum annual usage based on 271,160 MMBtu/yr. See Attachment A, Table 1.**		

Segment Description and Rate: Segment _ of

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

BOILER NO. 7

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; All Boiler Sizes**		
2. Source Classification Code (SCC): **1-02-011-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **112.78**	5. Maximum Annual Rate: **808,548**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **7.2**
10. Segment Comment: **Maximum hourly rate based on a heat input rate of 812 MMBtu/hr (1-hr max) and annual rate based on a heat input rate of 738 MMBtu/hr (24-hr max). Both annual and hourly maximums were based on a heating value of 3,600 Btu/lb wet bagasse (Permit No. 0510003-010-AC/ PSD-FL-272A and Permit No. 0510003-018-AC).**		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; Distillate Oil; Grades 1 and 2**		
2. Source Classification Code (SCC): **1-02-005-01**	3. SCC Units: **Thousand Gallons Burned**	
4. Maximum Hourly Rate: **2.311**	5. Maximum Annual Rate: **4,500**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.05**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **135**
10. Segment Comment: **Maximum hourly and annual rates and the maximum sulfur content of the distillate fuel oil based on current permit limits (Permit No. 0510003-018-AC). Includes combustion of facility-generated on-specification used oil.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Wood/Bark Waste (>50,000 lb/hr Steam)**		
2. Source Classification Code (SCC): **1-02-009-02**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **90.22**	5. Maximum Annual Rate: **18,377**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **9**
10. Segment Comment: **Maximum hourly rate based on 812 MMBtu/hr and a heating value of 4,500 Btu/lb (wet) for wood/bark waste. Maximum annual usage based on 165,393 MMBtu/yr. See Attachment A, Table 1.**		

Segment Description and Rate: Segment _ of

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

BOILER NO. 8

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; All Boiler Sizes**		
2. Source Classification Code (SCC): **1-02-011-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **143.06**	5. Maximum Annual Rate: **939,875**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **7.2**
10. Segment Comment: **Maximum hourly rate based on a maximum heat input rate of 1,030 MMBtu/hr (1 hour max.) and the annual rate is based on a 75% capacity factor.**		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; Distillate Oil; Grades 1 and 2**		
2. Source Classification Code (SCC): **1-02-005-01**	3. SCC Units: **Thousand Gallons Burned**	
4. Maximum Hourly Rate: **4.161**	5. Maximum Annual Rate: **6,073.6**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.05**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **135**
10. Segment Comment: **Maximum hourly and annual rates and the maximum sulfur content of the distillate fuel oil based on current permit limits (Permit No. 0510003-021-AC/PSD-FL-333). Includes combustion of facility-generated on-specification used oil.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Wood/Bark Waste (>50,000 lb/hr Steam)**		
2. Source Classification Code (SCC): **1-02-009-02**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **114.44**	5. Maximum Annual Rate: **35,251**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **9**
10. Segment Comment: **Maximum hourly rate based on 1,030 MMBtu/hr and a heating value of 4,500 Btu/lb (wet) for wood/bark waste. Maximum annual usage based on 317,258 MMBtu/yr. See Attachment A, Table 1.**		

Segment Description and Rate: Segment _ of

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

ATTACHMENT A

SUPPLEMENTAL INFORMATION FOR
TITLE V AIR OPERATION PERMIT REVISION

ATTACHMENT A

1.0 DESCRIPTION OF PLANNED ACTIVITIES

The State of Florida has recently been impacted by several hurricanes, resulting in widespread damage in Palm Beach, Hendry, and surrounding counties. As a result, the State of Florida Department of Environmental Protection has issued an Emergency Order (EO) (OGC No. 04-1559, Third Amended Emergency Final Order, September 16, 2004), declaring that the emergency caused by hurricane Frances poses an immediate danger to the public health, safety, and welfare of the citizens of the State of Florida. The purpose of the EO is to facilitate the repair, replacement and restoration of structures, equipment, surface water management systems, works and operations damaged by the hurricanes. The EO covers a number of areas, including solid waste management, open burning, and air pollution sources other than open burning.

United States Sugar Corporation (USSC) is proposing to burn clean wood generated properly from vegetative debris caused by the hurricanes at its sugar mill located in Clewiston. This program will only pertain to the upcoming processing year, beginning November 1, 2004 and running through November 1, 2005.

The major components of the USSC's Clewiston sugar mill include:

- Sugar mill and boiling house;
- Five carbonaceous (bagasse) fueled boilers, with No. 2 fuel oil, No. 6, fuel oil, and on-specification used oil as a supplementary/backup fuel;
- Material storage and handling systems (e.g., bagasse, and planned for wood chips);
- Sugar refinery which operates year-around; and
- Ancillary plant equipment.

Wood chips will be delivered to the USSC facility by 20-ton trucks (typical). The wood chips will be placed in the bagasse storage area. A wood chip fuel management plan, included in Attachment B, will be implemented to ensure that only clean wood fuel is received to be burned in the boilers.

Wood chips will be reclaimed from the storage area through the use of heavy equipment. The wood chips will be placed on the Reclaim Conveyor, which deposits the fuel onto the distribution conveyors for feeding into the boilers. The wood chips may be fed onto the Reclaim Conveyor alone

or may be mixed with the bagasse in storage before being fed to the boilers. Typically, this will result in a mixture of less than 25 percent wood chips. However, during certain conditions such as startup or mill interruption, the mixture could be as high as 100 percent wood chips.

On an annual basis, USSC will limit the total amount of heat input to the boilers from firing wood chips to no more than 1,200,000 million British thermal units per year (MMBtu/yr), or 133,333 tons per year (TPY) of wood chips (@ 4,500 Btu/lb).

A fuel analysis of the different fuels burned in the USSC boilers, including the proposed wood chip fuel, is provided in Attachment C. The analysis shows that wood chip fuel has a higher heating value and lower moisture content than bagasse. The wood chip fuel characteristics should result in cleaner, more efficient combustion, which will actually reduce emissions of most pollutants.

USSC is planning on beginning to burn wood chip fuel as early as November 2004. Wood chip burning may continue through the 2004-2005 crop season and the off-season, until November 2005. Boilers operate year-around at the USSC Clewiston Mill to support the sugar cane processing operations and the sugar refinery.

2.0 AIR EMISSIONS

USSC believes that due to the nature of the clean wood material burned in the boilers, there will be no increase in emissions due to the wood chip burning. Typically, due to the rather small proportion of wood chip fuel burned, the combustion characteristics of the boilers should not change compared to burning 100-percent bagasse. However, as an illustration of the potential effect of wood chip burning, the annual emissions change due to burning 1,200,000 MMBtu/yr (133,333 TPY) of wood chips were developed. The estimated emissions are presented in Table 1.

Current actual emissions for each boiler (in terms of lb/MMBtu) are based on the average of the last two compliance or stack tests performed on each boiler. All of these tests were conducted while burning bagasse. Where compliance or stack test data were not available for a particular boiler, data from other similar boilers at the USSC mill were used.

For potential emissions due to wood chip burning, emission factors from EPA publication AP-42 were used (refer to Attachment D), except for particulate matter (PM). For PM, the AP-42 factor is 0.066 lb/MMBtu, which is lower than all of the past actual stack test factors. However, to be conservative, it was assumed that future emissions in lb/MMBtu would remain the same as past actual emissions. For most pollutants and most boilers, the wood chip emission factors are lower than the actual stack test factors for bagasse burning.

As shown in Table 1, emissions are projected to increase only for nitrogen oxides, and slightly for sulfur dioxide. For all other pollutants, emissions are estimated to remain the same or decrease. It is emphasized that the wood chip burning will be temporary; i.e., it will only last for 1-year duration (November 2004 through October 2005).

3.0 RULE APPLICABILITY

3.1 State of Florida Air Rules

The carbonaceous fuel burning rule, Rule 62-296.410, Florida Administrative Code (F.A.C.), currently applies to the boilers, and will continue to apply to both wood chip and bagasse fuel burning. This rule limits PM emissions to 0.3 lb/MMBtu for existing boilers, and 0.2 lb/MMBtu for new boilers.

3.2 New Source Performance Standards (NSPS)

A potentially applicable NSPS is Subpart Db of 40 CFR 40, Part 60. However, for NSPS to apply, there must be an increase in hourly emissions of a pollutant regulated under the applicable subpart, as a result of the physical change or change in the method of operation. Subpart Db only regulates PM emissions in regards to wood fuel burning. Based on the emission analysis presented in Section 2.0 above, there will be no hourly increase in PM emissions since the heat input rates to the boilers are not changing, and the emission factor for PM wood chips is the same as for bagasse.

3.3 Prevention of Significant Deterioration

The USSC Clewiston boilers are already capable of accommodating the wood chip fuel. There are no physical changes to the boilers required to burn the new fuel. As described above, no increase in emissions is expected due to the burning of wood chip fuel in the boilers. As a result, the project does not constitute a "modification", and prevention of significant deterioration (PSD) new source review does not apply.

3.4 Title V Operating Permit

It is believed that the requested change in operation can be implemented through the "Changes Without Permit Revision" provisions of the Title V regulations (Rule 62-213.410, F.A.C.). This provision provides that a permitted source may implement operating changes after the source submits any forms required and provides the Department and EPA with at least 7 days written notice prior to implementation. The written notice must include the date on which the change will occur, a description of the change within the permitted source, the pollutants emitted and any change in emissions, and any term or condition becoming applicable or no longer applicable as a result of the change. An "Operating Change" is defined in Rule 62-210.200, F.A.C., as "any physical change to, or change to the operation of, any Title V source or any emissions unit within any Title V source which contravenes a permit term or condition, other than one described at Paragraphs 62-213.400(a) through (j), F.A.C., but which does not constitute a modification and does not otherwise subject the source to a requirement for a permit revision pursuant to Rule 62-213.400, F.A.C."

Table 1. Comparison of Actual Emissions from Firing 1,200,000 MMBtu/yr of Bagasse With Potential Emissions from Firing an Equivalent Amount of Clean Wood on a Heat Input Rate Basis - United States Sugar Corporation - Clewiston Mill

Boiler No.	Maximum Annual Bagasse Heat Input Rate Replaced by Wood[a] (MMBtu/yr)	Past Actuals - Bagasse Emission Factor[b] (lb/MMBtu)	Past Actuals - Bagasse Annual Emission Rate (TPY)	Future Potentials - Wood Emission Factor[d] (lb/MMBtu)	Future Potentials - Wood Annual Emission Rate (TPY)	Difference in Annual Emission Rate From Firing Bagasse and Wood (TPY)	PSD Significant Emission Rate (TPY)
		Nitrogen Oxides					
1	224,159	0.106	11.9	0.22	24.7	12.8	
2	202,015	0.117	11.8	0.22	22.2	10.4	
3	20,015	0.188	1.9	0.22	2.2	0.3	
4	271,160	0.114	15.5	0.22	29.8	14.4	
7	165,393	0.203	16.8	0.22	18.2	1.4	
8	317,258	0.14[f]	22.2	0.14[f]	22.2	0.0	
	Total		80.0		119.3	39.3	40
		Sulfur Dioxide					
1	224,159	0.011	1.2	0.025	2.8	1.6	
2	202,015	0.011[c]	1.1	0.025	2.5	1.4	
3	20,015	0.011[c]	0.1	0.025	0.3	0.1	
4	271,160	0.011[c]	1.5	0.025	3.4	1.9	
7	165,393	0.014	1.2	0.025	2.1	0.9	
8	317,258	0.06[f]	9.5	0.025	4.0	-5.6	
	Total		14.6	Total	15.0	0.4	40
		Particulate Matter					
1	224,159	0.178	20.0	0.178[e]	20.0	0.0	
2	202,015	0.190	19.2	0.190[e]	19.2	0.0	
3	20,015	0.162	1.6	0.162[e]	1.6	0.0	
4	271,160	0.113	15.3	0.113[e]	15.3	0.0	
7	165,393	0.017	1.4	0.017[e]	1.4	0.0	
8	317,258	0.026[f]	4.1	0.026[e]	4.1	0.0	
	Total		61.6		61.6	0.0	25
		Carbon Monoxide					
1	224,159	5.671	635.6	0.6	67.2	-568.4	
2	202,015	9.080	917.1	0.6	60.6	-856.5	
3	20,015	8.279	82.9	0.6	6.0	-76.8	
4	271,160	1.625	220.3	0.6	81.3	-139.0	
7	165,393	0.412	34.1	0.6	49.6	15.5	
8	317,258	0.412[f]	65.4	0.6	95.2	29.8	
	Total		1,955.3		360.0	-1,595.3	100
		Volatile Organic Compounds					
1	224,159	0.250[g]	28.0	0.013	1.5	-26.6	
2	202,015	0.250[g]	25.3	0.013	1.3	-23.9	
3	20,015	0.250[g]	2.5	0.013	0.1	-2.4	
4	271,160	0.250[g]	33.9	0.013	1.8	-32.1	
7	165,393	0.022	1.8	0.013	1.1	-0.7	
8	317,258	0.050[f]	7.9	0.013	2.1	-5.9	
	Total		99.4		7.8	-91.6	40

See Next Page for Footnotes.

Footnotes for Table 1.

[a] Based on distrubution of 1,200,000 MMBtu/yr to each boiler based on the maximum 24-hour average heat input rate and the number of available hours for each boiler over the next year starting on November 1, 2004 and the total combined annual available heat input rate to all boilers calculated as follows:

Boiler No.	Maximum 24-hr Avg. Heat Input Rate (MMBtu/hr)	Available Operating Hours (hours)	Annual Heat Input Rate (MMBtu/yr)	Pro-Rated Heat Input From Wood Chips (MMBtu/yr)	Comment
1	496	8,760	4,344,960	224,159	
2	447	8,760	3,915,720	202,015	
3	265	1,464	387,960	20,015	To be shut down January 2005.
4	600	8,760	5,256,000	271,160	
7	738	4,344	3,205,872	165,393	See Note 1.
8	936	6,570	6,149,520	317,258	To begin Operation January 2005. See Note 2.
		Total	23,260,032	1,200,000	

Note: 1. Permit limits operation outside of crop season to Boiler Nos. 7 and 8 or to Boiler Nos. 1, 2, 4, and 8. Maximum heat input is for the case of Boiler Nos. 1, 2, and 4 operating in off-season. Therefore, operating hours for Boiler No. 7 are based on the crop season operation only.

2. Boiler No. 8 annual heat input rate based on a permitted 75% capacity factor.

[b] Unless otherwise specified, represents average emission factor from two most recent stack tests.

[c] Stack tests for SO_2 have only been performed for Boiler Nos. 1 and 7. The lowest result of 0.011 lb/MMBtu was used for these boilers.

[d] Unless otherwise noted: based on AP-42, Compilation of Air Pollutant Emission Factors, Chapter 1.6, September 2003.

[e] Based on no increase expected above current actual PM emissions.

[f] Permitted emission rate.

ATTACHMENT B

WOOD FUEL MANAGEMENT PLAN

ATTACHMENT B

Wood Fuel Management Plan

United States Sugar Corporation
Clewiston Mill

October 2004

United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, Florida 33440

Submitted to
Florida Department of Environmental Protection
South District Office

TABLE OF CONTENTS

1.0 INTRODUCTION

United States Sugar Corporation (USSC) will implement inspection procedures for the wood chips delivered for fuel to its sugar mill located in Clewiston. The primary function of these procedures is to keep painted and chemically-treated wood, household garbage, toxic or hazardous non-biomass, and non-combustible waste material from being burned at the Mill. This Wood Chips Management Plan describes the implementation of these procedures.

The Plan includes a brief description of the USSC facility and its operations related to wood chips handling in Sections 2.0 and 3.0. Procedures for inspection of the wood chips at both the wood chips supply site and at USSC are described in Section 4.0. USSC procedures for recordkeeping of inspection results are provided in Section 5.0.

2.0 FACILITY INFORMATION

USSC is a bagasse-fired sugar cane processing facility located in Clewiston, Florida.

The major components of the facility include:

- sugar mill and boiling house
- five carbonaceous (bagasse) fueled boilers
- material storage and handling systems (e.g., wood chips, bagasse)
- sugar refinery
- ancillary plant equipment.

3.0 PROCESS DESCRIPTIONS

The following section describes the USSC Clewiston wood chips handling system process flow. Although the USSC facility also includes a bagasse handling system, only the wood chips are subject to the inspection procedure. Therefore, only this system is described in this plan.

3.1 Wood Chip Handling System

Wood chips will be delivered to the USSC facility by 20-ton trucks (typical). While unloading from the trucks, the wood chips will be discharged onto the ground. Heavy equipment will be used to transfer the wood chips to the designated storage area which is located at the bagasse storage area.

Wood chips will be reclaimed from the storage area through the use of heavy equipment. During normal operation, the wood chips will be placed on the Reclaim Conveyor. From the Reclaim Conveyor, the wood chips will discharge directly onto the boiler distribution conveyor, where it is fed to the boilers. During operations when the mill is down, all fuel for the boilers comes from the bagasse storage area via the Reclaim Conveyor. Wood chips may be mixed with bagasse in the storage area or fed alone onto the Reclaim Conveyor.

4.0 INSPECTION PROCEDURES

4.1 Wood Chips Supply Site

USSC will stipulate in its fuel supply contracts with the suppliers that the delivered wood chips must be substantially free of plastics, rubber, glass, and painted wood and contain only incidental amounts of chemically treated wood (e.g., chromium, copper, arsenic, creosote, pentachlorophenol).

To help ensure that wood chips delivered to the USSC facility meet the fuel quality specifications, the wood chip supplier will perform inspection and material segregation operations on each load of feedstock received at their facilities. The following description of the inspection and material segregation operations are typical of those operations performed at the wood chip yards supplying the USSC facility.

The bulk material feedstock at the originating wood chip yard will first undergo a "gross" material inspection to insure the segregation of the bulk wood chips from other mixed wastes (e.g., plastics, non-wood debris, scrap metal, concrete/soils). Trained personnel will be involved in oversight at this level of material inspection such that the majority of prohibited wastes are segregated from the bulk wood chips. After this operation, the wood chips will be further visually inspected and manually sorted (when applicable) to remove chemically-treated and painted wood, smaller mixed wastes, and other non-combustible materials. The "sorted" wood chips are then mechanically sized and screened (to actual contract specifications) prior to delivery to the USSC facility site.

4.2 USSC Wood Chip Storage

Upon delivery of the wood chips to the USSC Clewiston facility, each load will be visually inspected by the Fuel Handler stationed at the truck receiving dumping area. Loads which contain unacceptable, visible amounts (i.e., greater than fuel contract specified limits) of chemically treated and/or painted wood and other prohibited mixed wastes will be rejected by the inspector and prevented from discharging at the USSC facility fuel storage area. If the delivered load is acceptable based on the visual inspection, the truck will be staged for unloading.

5.0 RECORDKEEPING

Records of the wood chip deliveries and inspections outlined in this Plan will be maintained at the USSC Clewiston facility for review on an as-requested basis by FDEP. The records will typically include:

- Supplier,
- Time/date of delivery,
- Type of material,
- Delivery size, and
- Written record of visual inspection results (land accepted/rejected).

ATTACHMENT C

BOILER FUEL ANALYSIS

ATTACHMENT C
BOILER FUEL ANALYSIS

UNITED STATES SUGAR CORPORATION

PARAMETER	BAGASSE[a]	NOS. 1 & 2 FUEL OIL	NO. 6 FUEL OIL[b]	WOOD[c]
Heating Value				
Btu/lb (dry)	8,170	19,910	17,500	7,143
Btu/lb (wet) (min)	3,600	6.8	--	4,500
Density (lb/gal)	--	--	8.1	--
Moisture (%)	54		0.2	37
AVERAGE ULTIMATE ANALYSIS: (Dry Basis %)				
Carbon	48	86.9	87.3	50
Hydrogen	6	13.1	10.5	6
Nitrogen	0.35	0.005	0.28	0.40
Oxygen	42	0.03	0.64	41
Sulfur	0.06	0.16	1.0	0.07
Ash	4.5	<0.01	0.1	9.0

[a] Sources: U.S. Sugar Corporation, 2002. It represents average values, since biomass in particular could vary depending on environmental conditions, as well as harvesting procedures.

[b] Source: Perry's Chemical Engineers' Handbook, Sixth Edition.

[c] Based on New Hope Power Partnership average fuel specifications.

ATTACHMENT D

EMISSIONS FACTORS FOR WOOD CHIP BURNING FROM AP-42

Table 1.6-1. EMISSION FACTORS FOR PM FROM WOOD RESIDUE COMBUSTION[a]

Fuel	PM Control Device	Filterable PM		Filterable PM-10[b]		Filterable PM-2.5[b]	
		Emission Factor (lb/MMbtu)	EMISSION FACTOR RATING	Emission Factor (lb/MMbtu)	EMISSION FACTOR RATING	Emission Factor (lb/MMbtu)	EMISSION FACTOR RATING
Bark/Bark and Wet Wood	No Control[c]	0.56[d]	C	0.50[e]	D	0.43[e]	D
Dry Wood	No Control[c]	0.40[f]	A	0.36[e]	D	0.31[e]	D
Wet Wood	No Control[c]	0.33[g]	A	0.29[e]	D	0.25[e]	D
Bark	Mechanical Collector	0.54[h]	D	0.49[e]	D	0.29[e]	D
Bark and Wet Wood	Mechanical Collector	0.35[i]	C	0.32[e]	D	0.19[e]	D
Dry Wood	Mechanical Collector	0.30[j]	A	0.27[e]	D	0.16[e]	D
Wet Wood	Mechanical Collector	0.22[k]	A	0.20[e]	D	0.12[e]	D
All Fuels[m]	Electrolyzed Gravel Bed	0.1[m]	D	0.074[e]	D	0.065[e]	D
All Fuels[m]	Wet Scrubber	0.066[n]	A	0.065[e]	D	0.065[e]	D
All Fuels[m]	Fabric Filter	0.1[o]	C	0.074[e]	D	0.065[e]	
All Fuels[m]	Electrostatic Precipitator	0.054[p]	B	0.04[e]	D	0.035[e]	
		Condensible PM					
All Fuels[m]	All Controls/No Controls	0.017[q]	A				

Table 1.6-1. (cont.)

[a] Units of lb of pollutant/million Btu (MMBtu) of heat input. To convert from lb/MMBtu to lb/ton, multiply by (HHV * 2000), where HHV is the higher heating value of the fuel, MMBtu/lb. CPM = Condensible Particulate Matter. These factors apply to Source Classification Codes (SCC) 1-0X-009-YY, where X = 1 for utilities, 2 for industrial, and 3 for commercial/institutional, and where Y = 01 for bark-fired boiler, 02 for bark and wet wood-fired boiler, 03 for wet wood-fired boiler, and 08 for dry wood-fired boiler.

[b] PM-10 = particulate matter less than or equal to 10 microns in aerodynamic diameter. PM-2.5 = particulate matter less than or equal to 2.5 microns in aerodynamic diameter. Filterable PM = PM captured and measured on the filter in an EPA Method 5 (or equivalent) sampling train. Condensible PM = PM captured and measured in an EPA Method 202 (or equivalent) sampling train.

[c] Factor represents boilers with no controls, Breslove separators, Breslove separators with reinjection, and mechanical collectors with reinjection. Mechanical collectors include cyclones and multiclones.

[d] References 19-21, 88.

[e] Cumulative mass % provided in Table 1.6-6 for Bark and Wet Wood-fired boilers multiplied by the Filterable PM factor.

[f] References 22-32, 88.

[g] References 26, 33-36, 88.

[h] References 37, 38, 88.

[i] References 26, 39-41, 88.

[j] References 26, 27, 34, 42-54, 88.

[k] Reference 55-57, 88.

[l] All fuels = Bark, Bark and Wet Wood, Dry Wood, and Wet Wood.

[m] References 27, 58, 88.

[n] References 26, 59-66, 88.

[o] References 26, 67-70, 88.

[p] References 26, 71-74, 88.

[q] References 19-21, 25, 28, 29, 31, 32, 36-41, 46, 51, 53-60, 62 - 65, 67-69, 72-75, 88.

Table 1.6-2. EMISSION FACTORS FOR NO_x, SO_2, AND CO FROM WOOD RESIDUE COMBUSTION[a]

Source Category[c]	NO_x[b]		SO_2[b]		CO[b]	
	Emission Factor (lb/MMbtu)	EMISSION FACTOR RATING	Emission Factor (lb/MMBtu)	EMISSION FACTOR RATING	Emission Factor (lb/MMbtu)	EMISSION FACTOR RATING
Bark/bark and wet wood/wet wood-fired boiler	0.22[d]	A	0.025[e]	A	0.60[f,g,i,j]	A
Dry wood-fired boilers	0.49[h]	C	0.025[e]	A	0.60[f,g,i]	A

[a] Units of lb of pollutant/million Btu (MMBtu) of heat input. To convert from lb/MMBtu to lb/ton, multiply by (HHV * 2000), where HHV is the higher heating value of the fuel, MMBtu/lb. To convert lb/MMBtu to kg/J, multiply by 4.3E-10. NO_x = Nitrogen oxides, SO_2 = Sulfur dioxide, CO = Carbon monoxide.

[b] Factors represent boilers with no controls or with particulate matter controls.

[c] These factors apply to Source Classification Codes (SCC) 1-0X-009-YY, where X = 1 for utilities, 2 for industrial, and 3 for commercial/institutional, and where Y = 01 for bark-fired boiler, 02 for bark and wet wood-fired boiler, 03 for wet wood-fired boiler, and 08 for dry wood-fired boiler.

[d] References 19, 33, 34, 39, 40, 41, 55, 62-64, 67, 70, 72, 78, 79, 88-89.

[e] References 26, 45, 50, 72, 88-89.

[f] References 26, 59, 88-89.

[g] References 19, 26, 39-41, 60-64, 67, 68, 70, 75, 79, 88-89.

[h] References 30, 34, 45, 50, 80, 81, 88-89.

[i] References 26, 30, 45-51, 80-82, 88-89.

[j] Emission factor is for stokers and dutch ovens/fuel cells. References 26, 34, 36, 55, 60, 65, 71, 72, 75. **CO Factor for fluidized bed combustors is 0.17 lb/MMbtu.** References 26, 72, 88-89.

Table 1.6-3. (cont.)

Organic Compound	Average Emission Factor[b] (lb/MMBtu)	EMISSION FACTOR RATING
Vinyl Chloride	1.8 E-05[r]	D
o-Xylene	2.5 E-05[v]	D
Total organic compounds (TOC)	0.039[ai]	D
Volatile organic compounds (VOC)	0.013[aj]	D
Nitrous Oxide (N_2O)	0.013[ak]	D
Carbon Dioxide (CO_2)	195[al]	A

[a] Units of lb of pollutant/million Btu (MMBtu) of heat input. To convert from lb/MMBtu to lb/ton, multiply by (HHV * 2000), where HHV is the higher heating value of the fuel, MMBtu/lb. To convert lb/MMBtu to kg/J, multiply by 4.3E-10. These factors apply to Source Classification Codes (SCC) 1-0X-009-YY, where X = 1 for utilities, 2 for industrial, and 3 for commercial/institutional, and where Y = 01 for bark-fired boiler, 02 for bark and wet wood-fired boiler, 03 for wet wood-fired boiler, and 08 for dry wood-fired boiler.

[b] Factors are for boilers with no controls or with particulate matter controls.

[c] References 26, 34, 36, 59, 60, 65, 71-73, 75.

[d] References 26, 33, 34, 36, 59, 60, 65, 71-73, 75.

[e] References, 26, 35, 36, 46, 50, 59, 60, 65, 71-75.

[f] Reference 26.

[g] Reference 33.

[h] Reference 26, 50, 83.

[i] References 26, 34, 36, 59, 60, 65, 71-73, 75.

[j] References 26, 50.

[k] References 26, 35, 36, 46, 59, 60, 65, 70, 71-75.

[l] References 26, 36, 59, 60, 65, 70-75.

[m] References 26, 33, 36, 59, 60, 65, 70-73, 75.

[n] References 26, 33, 36, 59, 60, 65, 71-73, 75.

[o] Reference 34.

[p] References 26, 36, 60, 65, 71-75.

[q] References 26, 33.

[r] References 26.

[s] Reference 83.

[t] References 26, 72.

[u] References 35, 60, 65, 71, 72.

[v] References 26, 72.

[w] References 35, 60, 65, 71, 72.

[x] References 26, 33, 34, 59, 60, 65, 71-75.

[y] References 26, 28, 35, 36, 46 - 51, 59, 60, 65, 70, 71-75, 79, 81, 82.

[z] Reference 50.

[aa] Reference 26, 45.

[ab] References 26, 33, 34, 36, 59, 60, 65, 71-75, 83.

[ac] References 26, 35, 60, 65, 71, 72.

[ad] References 26, 33, 34, 36, 59, 60, 65, 71 - 73.

[ae] References 26, 33, 34, 35, 60, 65, 70, 71, 72.

[af] References 26, 33, 34, 36, 59, 60, 65, 71 - 73, 83.

[ag] References 26, 45.

[ah] References 26, 35, 60, 65, 71.

[ai] TOC = total organic compounds. Factor is the sum of all factors in table except nitrous oxide and carbon dioxide.

[aj] VOC volatile organic compounds. Factor is the sum of all factors in table except hydrogen chloride, chlorine, formaldehyde, tetrachloroethene, 1,1,1,-trichloroethane, dichloromethane, acetone, nitrous oxide, methane, and carbon dioxide.

[ak] Reference 83.

[al] References 19 - 26, 33 - 49, 51- 57, 77, 79 - 82, 84 - 86.

Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, FL USA 32653
Telephone (352) 336-5600
Fax (352) 336-6603
www.golder.com

November 5, 2004 0437576

Florida Department of Environmental Protection
Division of Air Resources Management
2600 Blair Stone Road, MS # 5500
Tallahassee, FL 32399-2400

Attention : Mr. Jeff Koerner, P. E.

RE: United States Sugar Corporation- Clewiston Mill
Temporary Firing of Wood Chips

Dear Mr. Koerner:

Please find enclosed four (4) copies of an air construction permit application for the temporary (up to 1-year) firing of wood chips in the boilers at the Clewiston Mill. The purpose of this activity is in part to aid in disposing of hurricane-generated clean wood debris. Please call or e-mail me if you have any questions concerning this application.

Sincerely,

GOLDER ASSOCIATES INC.

David A. Buff

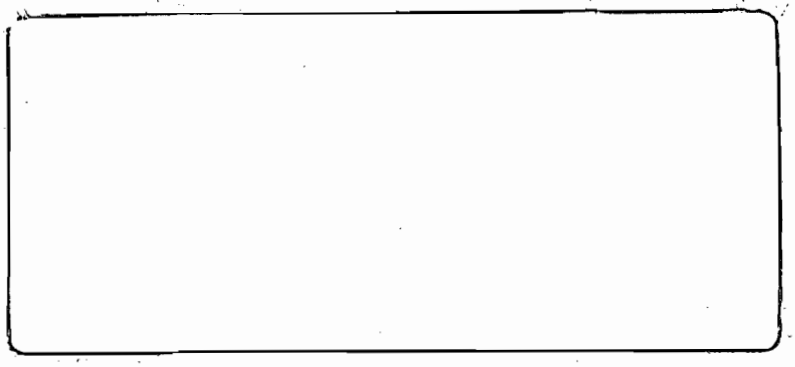
David A. Buff, P.E., Q.E.P.
Principal Engineer

DB/nav

Enclosure

cc: D. Griffin, USSC
P. Briggs, USSC
R. Blackburn, FDEP South District

Y:\Projects\2004\0437578 GP No.4 Comb Blr\4\4.1\L110504.doc



Golder Associates

APPLICATION FOR WOODCHIP BURNING IN BOILER NOS. 1, 2, 3, 4, 7, AND 8

U.S. SUGAR CORPORATION
CLEWISTON MILL

Prepared For:
United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, Florida 33440

Prepared By:
Golder Associates Inc.
6241 NW 23rd Street, Suite 500
Gainesville, Florida 32653-1500

November 2004
0437576

RECEIVED
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BUREAU OF AIR REGULATION

DISTRIBUTION:
4 Copies – FDEP
2 Copies – U.S. Sugar Corporation
1 Copy – Golder Associates Inc.

Department of
Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit for a proposed project:

- subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- at an existing federally enforceable state air operation permit (FESOP) or Title V permitted facility.

Air Operation Permit – Use this form to apply for:

- an initial federally enforceable state air operation permit (FESOP); or
- an initial/revised/renewal Title V air operation permit.

Air Construction Permit & Revised/Renewal Title V Air Operation Permit (Concurrent Processing Option) – Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: **United States Sugar Corporation**	
2. Site Name: **U.S. Sugar Clewiston Mill**	
3. Facility Identification Number: **0510003**	
4. Facility Location...: Street Address or Other Locator: **W.C. Owens Ave. and S.R. 832** City: **Clewiston** County: **Hendry** Zip Code: **33440**	
5. Relocatable Facility? ☐ Yes ☒ No	6. Existing Title V Permitted Facility? ☒ Yes ☐ No

Application Contact

1. Application Contact Name: **William A. Raiola, Vice President, Sugar Processing Operations**
2. Application Contact Mailing Address... Organization/Firm: **United States Sugar Corporation** Street Address: **111 Ponce DeLeon Ave.** City: **Clewiston** State: **Florida** Zip Code: **33440**
3. Application Contact Telephone Numbers... Telephone: **(863) 983-8121** ext. Fax: **(863) 902-2729**
4. Application Contact Email Address: **wraiola@ussugar.com**

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	11-9-04
2. Project Number(s):	0510003 - 038 -AC
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

APPLICATION INFORMATION

Purpose of Application

This application for air permit is submitted to obtain: (Check one)

Air Construction Permit

☐ Air construction permit.

Air Operation Permit

☐ Initial Title V air operation permit.

☒ Title V air operation permit revision.

☐ Title V air operation permit renewal.

☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.

☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

☐ Air construction permit and Title V permit revision, incorporating the proposed project.

☐ Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

☐ I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

Air Construction Permit application to fire Boiler Nos. 1, 2, 3, 4, 7, and 8 with clean wood/bark for a period up to 1 year.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
001	Boiler No. 1	AC1A	n/a
002	Bolier No. 2	AC1A	n/a
003	Boiler No. 3	AC1A	n/a
009	Boiler No. 4	AC1A	n/a
014	Bolier No. 7	AC1A	n/a
028	Boiler No. 8	AC1A	n/a

Application Processing Fee

Check one: ☐ Attached - Amount: $_____ ☒ Not Applicable

APPLICATION INFORMATION

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name :

2. Owner/Authorized Representative Mailing Address...
   Organization/Firm:
   Street Address:
   City: State: Zip Code:

3. Owner/Authorized Representative Telephone Numbers...
   Telephone: ( ) - ext. Fax: ( ) -

4. Owner/Authorized Representative Email Address:

5. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other requirements identified in this application to which the facility is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit.

   Signature Date

APPLICATION INFORMATION

Application Responsible Official Certification

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name:
   William A. Raiola, Vice President, Sugar Processing Operations

2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):
   - ☒ For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.
   - ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively.
   - ☐ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.
   - ☐ The designated representative at an Acid Rain source.

3. Application Responsible Official Mailing Address...
   Organization/Firm: **United States Sugar Corporation**
   Street Address: **111 Ponce DeLeon Ave.**
   City: **Clewiston** State: **FL** Zip Code: **33440**

4. Application Responsible Official Telephone Numbers...
   Telephone: **(863) 983-8121** ext. Fax: **(863) 902-2729**

5. Application Responsible Official Email Address: **wraiola@ussugar.com**

6. Application Responsible Official Certification:

   I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.

   Signature 11/5/04 Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: **David A. Buff**
   Registration Number: **19011**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Golder Associates Inc.****
   Street Address: **6241 NW 23rd Street, Suite 500**
   City: **Gainesville** State: **FL** Zip Code: **32653-1500**
3. Professional Engineer Telephone Numbers...
   Telephone: **(352) 336-5600** ext. **545** Fax: **(352) 336-6603**
4. Professional Engineer Email Address: **dbuff@golder.com**
5. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

(3) If the purpose of this application is to obtain a Title V air operation permit (check here ☐, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.

(4) If the purpose of this application is to obtain an air construction permit (check here ☐, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here ☐, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here ☒, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

David A. Buff — Signature

11/5/04 — Date

(seal)

* Attach any exception to certification statement.

** Board of Professional Engineers Certificate of Authorization #00001670

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone **17** East (km) **506.1** North (km) **2956.9**		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) **26/44/06** Longitude (DD/MM/SS) **80/56/19**	
3. Governmental Facility Code: **0**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **20**	6. Facility SIC(s): **2061, 2062**
7. Facility Comment :			

Facility Contact

1. Facility Contact Name: **Wiliam A. Raiola, Vice President, Sugar Processing Operations**
2. Facility Contact Mailing Address... Organization/Firm: **United States Sugar Corporation** Street Address: **111 Ponce DeLeon Ave.** City: **Clewiston** State: **FL** Zip Code: **33440**
3. Facility Contact Telephone Numbers: Telephone: **(863) 983-8121** ext. Fax: **(863) 902-2729**
4. Facility Contact Email Address: **wraiola@ussugar.com**

Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I. that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Facility Primary Responsible Official Telephone Numbers... Telephone: ( ) - ext. Fax: ( ) -
4. Facility Primary Responsible Official Email Address:

Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a "major source" and a "synthetic minor source."

1. ☐ Small Business Stationary Source	☐ Unknown
2. ☐ Synthetic Non-Title V Source	
3. ☒ Title V Source	
4. ☒ Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. ☐ Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. ☒ Major Source of Hazardous Air Pollutants (HAPs)	
7. ☐ Synthetic Minor Source of HAPs	
8. ☒ One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. ☐ One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. ☒ One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. ☐ Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment:	

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
Particulate Matter Total - PM	A	No
Sulfur Dioxide - SO_2	A	No
Nitrogen Oxides - NO_x	A	No
Carbon Monoxide - CO	A	No
Particulate Matter - PM_{10}	A	No
Sulfuric Acid Mist - SAM	A	No
Total Hazardous Air Pollutants - HAPs	A	No
Volatile Organic Compounds - VOC	A	No
Acetaldehyde - H001	A	No
Benzene - H017	A	No
Formaldehyde - H095	A	No
Phenol - H144	A	No
Polycyclic Organic Matter - H151	A	No
Styrene - H163	A	No
Toluene - H169	A	No
Naphthalene - H132	A	No
Dibenzofuran - H058	A	No

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions Cap	2. Facility Wide Cap [Y or N]? (all units)	3. Emissions Unit ID No.s Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap

7. Facility-Wide or Multi-Unit Emissions Cap Comment:

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID:____ ☒ Previously Submitted, Date:**3/2003**
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID:____ ☒ Previously Submitted, Date:**3/2003**
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID:_____ ☐ Previously Submitted, Date:____

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location: ☐ Attached, Document ID:_____ ☒ Not Applicable (existing permitted facility)
2. Description of Proposed Construction or Modification: ☐ Attached, Document ID: ____
3. Rule Applicability Analysis: ☐ Attached, Document ID: ____
4. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable
6. Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable
7. Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(5)(h)5., F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(5)(e)1. and 62-212.500(4)(e), F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable

APPLICATION INFORMATION

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID:_____ ☒ Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities (Required for initial/renewal applications only):
   ☐ Attached, Document ID:_____ ☒ Not Applicable (revision application)

2. Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought):
   ☒ Attached, Document ID: **Attachment A**
   ☐ Not Applicable (revision application with no change in applicable requirements)

3. Compliance Report and Plan (Required for all initial/revision/renewal applications):
   ☐ Attached, Document ID:_____
   Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.

4. List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only):
   ☐ Attached, Document ID:_____
   ☐ Equipment/Activities On site but Not Required to be Individually Listed
   ☒ Not Applicable

5. Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only) :
   ☐ Attached, Document ID:_____ ☒ Not Applicable

6. Requested Changes to Current Title V Air Operation Permit:
   ☒ Attached, Document ID: **Attachment A** ☐ Not Applicable

Additional Requirements Comment

BOILER NO. 1

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; All Boiler Sizes**		
2. Source Classification Code (SCC): **1-02-011-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **68.89**	5. Maximum Annual Rate: **603,467**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **7.2**
10. Segment Comment: **Based on 496 MMBtu/hr and a heating value of 3,600 Btu/lb (wet) for bagasse. Annual usage based on 8,760 hours per year of operation.**		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Residual Oil; Grade 6**		
2. Source Classification Code (SCC): **1-02-004-01**	3. SCC Units: **1000 Gallons Burned**	
4. Maximum Hourly Rate: **1.500**	5. Maximum Annual Rate: **13,140**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **2.5**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **150**
10. Segment Comment: **Maximum hourly and annual rates based on proposed 1,500 gal/hr and 8,760 hr/yr for No. 6 fuel oil. Also includes facility-generated on-spec used oil and up to 500 cubic yards per season of petroleum contaminated soils.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): **External combustion boilers; Industrial; Wood/Bark Waste (>50,000 lb/hr steam)**		
2. Source Classification Code (SCC): **1-02-009-02**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **55.11**	5. Maximum Annual Rate: **24,906**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **9**
10. Segment Comment: **Maximum hourly rate based on 496 MMBtu/hr and a heating value of 4,500 Btu/lb (wet) for wood/bark waste. Maximum annual usage based on 224,159 MMBtu/yr. See Attachment A, Table 1.**		

Segment Description and Rate: Segment _ of

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

BOILER NO. 2

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; All Boiler Sizes**		
2. Source Classification Code (SCC): **1-02-011-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **62.08**	5. Maximum Annual Rate: **543,850**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **7.2**
10. Segment Comment: **Based on 447 MMBtu/hr and a heating value of 3,600 Btu/lb (wet) for bagasse. Annual usage based on 8,760 hours per year of operation.**		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; Distillate Oil; Grades 1 and 2**		
2. Source Classification Code (SCC): **1-02-005-01**	3. SCC Units: **1,000 Gallons Burned**	
4. Maximum Hourly Rate: **1.500**	5. Maximum Annual Rate: **13,140**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **2.5**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **150**
10. Segment Comment: **Maximum hourly and annual rates based on proposed 1,500 gal/hr and 8,760 hr/yr for No. 6 fuel oil. Also includes facility-generated on-spec used oil and up to 500 cubic yards per season of petroleum contaminated soils.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Wood/Bark Waste (>50,000 lb/hr Steam)**		
2. Source Classification Code (SCC): **1-02-009-02**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **49.67**	5. Maximum Annual Rate: **22,446**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **9**
10. Segment Comment: **Maximum hourly rate based on 447 MMBtu/hr and a heating value of 4,500 Btu/lb (wet) for wood/bark waste. Maximum annual usage based on 202,015 MMBtu/yr. See Attachment A, Table 1.**		

Segment Description and Rate: Segment _ of

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

BOILER NO. 3

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; All Boiler Sizes**		
2. Source Classification Code (SCC): **1-02-011-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **36.81**	5. Maximum Annual Rate: **322,417**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **7.2**
10. Segment Comment: **Based on 265 MMBtu/hr and a heating value of 3,600 Btu/lb (wet) for bagasse. Annual usage based on 8,760 hours per year of operation.**		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Residual Oil; Grade No. 6**		
2. Source Classification Code (SCC): **1-02-004-01**	3. SCC Units: **1,000 Gallons Burned**	
4. Maximum Hourly Rate: **0.9**	5. Maximum Annual Rate: **7,884**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **2.5**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **150**
10. Segment Comment: **Maximum hourly and annual rates based on 900 gal/hr and 8,760 hr/yr. Also includes facility-generated on-spec used oil and up to 500 cubic yards per season of petroleum contaminated soils.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Wood/Bark Waste (>50,000 lb/hr Steam)**		
2. Source Classification Code (SCC): **1-02-009-02**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **29.44**	5. Maximum Annual Rate: **2,224**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **9**
10. Segment Comment: **Maximum hourly rate based on 265 MMBtu/hr and a heating value of 4,500 Btu/lb (wet) for wood/bark waste. Maximum annual usage based on 20,015 MMBtu/yr. See Attachment A, Table 1.**		

Segment Description and Rate: Segment _ of

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

BOILER NO. 4

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; All Boiler Sizes**		
2. Source Classification Code (SCC): **1-02-011-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **87.92**	5. Maximum Annual Rate: **400,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **7.2**
10. Segment Comment: **Based on 633 MMBtu/hr and 3,600 Btu/lb wet bagasse. Annual rate is maximum allowable from Permit No. 0510003-010-AC/PSD-FL-272A.**		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; Distillate Oil; Grades 1 and 2**		
2. Source Classification Code (SCC): **1-02-005-01**	3. SCC Units: **Thousand Gallons Burned**	
4. Maximum Hourly Rate: **2.417**	5. Maximum Annual Rate: **500**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.4**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **135**
10. Segment Comment: **Maximum hourly and annual rates based on proposed 326.25 MMBtu/hr and a current limit of 500,000 gallons of fuel oil per year (Permit No. 0510003-018-AC). Includes combustion of facility-generated on-specification used oil.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Wood/Bark Waste (>50,000 lb/hr Steam)**		
2. Source Classification Code (SCC): **1-02-009-02**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **70.33**	5. Maximum Annual Rate: **30,129**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **9**
10. Segment Comment: **Maximum hourly rate based on 633 MMBtu/hr and a heating value of 4,500 Btu/lb (wet) for wood/bark waste. Maximum annual usage based on 271,160 MMBtu/yr. See Attachment A, Table 1.**		

Segment Description and Rate: Segment _ of

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

BOILER NO. 7

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; All Boiler Sizes**		
2. Source Classification Code (SCC): **1-02-011-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **112.78**	5. Maximum Annual Rate: **808,548**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **7.2**
10. Segment Comment: **Maximum hourly rate based on a heat input rate of 812 MMBtu/hr (1-hr max) and annual rate based on a heat input rate of 738 MMBtu/hr (24-hr max). Both annual and hourly maximums were based on a heating value of 3,600 Btu/lb wet bagasse (Permit No. 0510003-010-AC/ PSD-FL-272A and Permit No. 0510003-018-AC).**		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; Distillate Oil; Grades 1 and 2**		
2. Source Classification Code (SCC): **1-02-005-01**	3. SCC Units: **Thousand Gallons Burned**	
4. Maximum Hourly Rate: **2.311**	5. Maximum Annual Rate: **4,500**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.05**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **135**
10. Segment Comment: **Maximum hourly and annual rates and the maximum sulfur content of the distillate fuel oil based on current permit limits (Permit No. 0510003-018-AC). Includes combustion of facility-generated on-specification used oil.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Wood/Bark Waste (>50,000 lb/hr Steam)**		
2. Source Classification Code (SCC): **1-02-009-02**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **90.22**	5. Maximum Annual Rate: **18,377**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **9**
10. Segment Comment: **Maximum hourly rate based on 812 MMBtu/hr and a heating value of 4,500 Btu/lb (wet) for wood/bark waste. Maximum annual usage based on 165,393 MMBtu/yr. See Attachment A, Table 1.**		

Segment Description and Rate: Segment _ of

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

BOILER NO. 8

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; All Boiler Sizes**		
2. Source Classification Code (SCC): **1-02-011-01**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **143.06**	5. Maximum Annual Rate: **939,875**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **7.2**
10. Segment Comment: **Maximum hourly rate based on a maximum heat input rate of 1,030 MMBtu/hr (1 hour max.) and the annual rate is based on a 75% capacity factor.**		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Bagasse; Distillate Oil; Grades 1 and 2**		
2. Source Classification Code (SCC): **1-02-005-01**	3. SCC Units: **Thousand Gallons Burned**	
4. Maximum Hourly Rate: **4.161**	5. Maximum Annual Rate: **6,073.6**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.05**	8. Maximum % Ash:	9. Million Btu per SCC Unit: **135**
10. Segment Comment: **Maximum hourly and annual rates and the maximum sulfur content of the distillate fuel oil based on current permit limits (Permit No. 0510003-021-AC/PSD-FL-333). Includes combustion of facility-generated on-specification used oil.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): **External Combustion Boilers; Industrial; Wood/Bark Waste (>50,000 lb/hr Steam)**		
2. Source Classification Code (SCC): **1-02-009-02**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **114.44**	5. Maximum Annual Rate: **35,251**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **9**
10. Segment Comment: **Maximum hourly rate based on 1,030 MMBtu/hr and a heating value of 4,500 Btu/lb (wet) for wood/bark waste. Maximum annual usage based on 317,258 MMBtu/yr. See Attachment A, Table 1.**		

Segment Description and Rate: Segment _ of

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

ATTACHMENT A

SUPPLEMENTAL INFORMATION FOR
TITLE V AIR OPERATION PERMIT REVISION

ATTACHMENT A

1.0 DESCRIPTION OF PLANNED ACTIVITIES

The State of Florida has recently been impacted by several hurricanes, resulting in widespread damage in Palm Beach, Hendry, and surrounding counties. As a result, the State of Florida Department of Environmental Protection has issued an Emergency Order (EO) (OGC No. 04-1559, Third Amended Emergency Final Order, September 16, 2004), declaring that the emergency caused by hurricane Frances poses an immediate danger to the public health, safety, and welfare of the citizens of the State of Florida. The purpose of the EO is to facilitate the repair, replacement and restoration of structures, equipment, surface water management systems, works and operations damaged by the hurricanes. The EO covers a number of areas, including solid waste management, open burning, and air pollution sources other than open burning.

United States Sugar Corporation (USSC) is proposing to burn clean wood generated properly from vegetative debris caused by the hurricanes at its sugar mill located in Clewiston. This program will only pertain to the upcoming processing year, beginning November 1, 2004 and running through November 1, 2005.

The major components of the USSC's Clewiston sugar mill include:

- Sugar mill and boiling house;
- Five carbonaceous (bagasse) fueled boilers, with No. 2 fuel oil, No. 6, fuel oil, and on-specification used oil as a supplementary/backup fuel;
- Material storage and handling systems (e.g., bagasse, and planned for wood chips);
- Sugar refinery which operates year-around; and
- Ancillary plant equipment.

Wood chips will be delivered to the USSC facility by 20-ton trucks (typical). The wood chips will be placed in the bagasse storage area. A wood chip fuel management plan, included in Attachment B, will be implemented to ensure that only clean wood fuel is received to be burned in the boilers.

Wood chips will be reclaimed from the storage area through the use of heavy equipment. The wood chips will be placed on the Reclaim Conveyor, which deposits the fuel onto the distribution conveyors for feeding into the boilers. The wood chips may be fed onto the Reclaim Conveyor alone

or may be mixed with the bagasse in storage before being fed to the boilers. Typically, this will result in a mixture of less than 25 percent wood chips. However, during certain conditions such as startup or mill interruption, the mixture could be as high as 100 percent wood chips.

On an annual basis, USSC will limit the total amount of heat input to the boilers from firing wood chips to no more than 1,200,000 million British thermal units per year (MMBtu/yr), or 133,333 tons per year (TPY) of wood chips (@ 4,500 Btu/lb).

A fuel analysis of the different fuels burned in the USSC boilers, including the proposed wood chip fuel, is provided in Attachment C. The analysis shows that wood chip fuel has a higher heating value and lower moisture content than bagasse. The wood chip fuel characteristics should result in cleaner, more efficient combustion, which will actually reduce emissions of most pollutants.

USSC is planning on beginning to burn wood chip fuel as early as November 2004. Wood chip burning may continue through the 2004-2005 crop season and the off-season, until November 2005. Boilers operate year-around at the USSC Clewiston Mill to support the sugar cane processing operations and the sugar refinery.

2.0 AIR EMISSIONS

USSC believes that due to the nature of the clean wood material burned in the boilers, there will be no increase in emissions due to the wood chip burning. Typically, due to the rather small proportion of wood chip fuel burned, the combustion characteristics of the boilers should not change compared to burning 100-percent bagasse. However, as an illustration of the potential effect of wood chip burning, the annual emissions change due to burning 1,200,000 MMBtu/yr (133,333 TPY) of wood chips were developed. The estimated emissions are presented in Table 1.

Current actual emissions for each boiler (in terms of lb/MMBtu) are based on the average of the last two compliance or stack tests performed on each boiler. All of these tests were conducted while burning bagasse. Where compliance or stack test data were not available for a particular boiler, data from other similar boilers at the USSC mill were used.

For potential emissions due to wood chip burning, emission factors from EPA publication AP-42 were used (refer to Attachment D), except for particulate matter (PM). For PM, the AP-42 factor is 0.066 lb/MMBtu, which is lower than all of the past actual stack test factors. However, to be conservative, it was assumed that future emissions in lb/MMBtu would remain the same as past actual emissions. For most pollutants and most boilers, the wood chip emission factors are lower than the actual stack test factors for bagasse burning.

As shown in Table 1, emissions are projected to increase only for nitrogen oxides, and slightly for sulfur dioxide. For all other pollutants, emissions are estimated to remain the same or decrease. It is emphasized that the wood chip burning will be temporary; i.e., it will only last for 1-year duration (November 2004 through October 2005).

3.0 RULE APPLICABILITY

3.1 State of Florida Air Rules

The carbonaceous fuel burning rule, Rule 62-296.410, Florida Administrative Code (F.A.C.), currently applies to the boilers, and will continue to apply to both wood chip and bagasse fuel burning. This rule limits PM emissions to 0.3 lb/MMBtu for existing boilers, and 0.2 lb/MMBtu for new boilers.

3.2 New Source Performance Standards (NSPS)

A potentially applicable NSPS is Subpart Db of 40 CFR 40, Part 60. However, for NSPS to apply, there must be an increase in hourly emissions of a pollutant regulated under the applicable subpart, as a result of the physical change or change in the method of operation. Subpart Db only regulates PM emissions in regards to wood fuel burning. Based on the emission analysis presented in Section 2.0 above, there will be no hourly increase in PM emissions since the heat input rates to the boilers are not changing, and the emission factor for PM wood chips is the same as for bagasse.

3.3 Prevention of Significant Deterioration

The USSC Clewiston boilers are already capable of accommodating the wood chip fuel. There are no physical changes to the boilers required to burn the new fuel. As described above, no increase in emissions is expected due to the burning of wood chip fuel in the boilers. As a result, the project does not constitute a "modification", and prevention of significant deterioration (PSD) new source review does not apply.

3.4 Title V Operating Permit

It is believed that the requested change in operation can be implemented through the "Changes Without Permit Revision" provisions of the Title V regulations (Rule 62-213.410, F.A.C.). This provision provides that a permitted source may implement operating changes after the source submits any forms required and provides the Department and EPA with at least 7 days written notice prior to implementation. The written notice must include the date on which the change will occur, a description of the change within the permitted source, the pollutants emitted and any change in emissions, and any term or condition becoming applicable or no longer applicable as a result of the change. An "Operating Change" is defined in Rule 62-210.200, F.A.C., as "any physical change to, or change to the operation of, any Title V source or any emissions unit within any Title V source which contravenes a permit term or condition, other than one described at Paragraphs 62-213.400(a) through (j), F.A.C., but which does not constitute a modification and does not otherwise subject the source to a requirement for a permit revision pursuant to Rule 62-213.400, F.A.C."

Table 1. Comparison of Actual Emissions from Firing 1,200,000 MMBtu/yr of Bagasse With Potential Emissions from Firing an Equivalent Amount of Clean Wood on a Heat Input Rate Basis - United States Sugar Corporation - Clewiston Mill

Boiler No.	Maximum Annual Bagasse Heat Input Rate Replaced by Wood[a] (MMBtu/yr)	Past Actuals - Bagasse Emission Factor[b] (lb/MMBtu)	Past Actuals - Bagasse Annual Emission Rate (TPY)	Future Potentials - Wood Emission Factor[d] (lb/MMBtu)	Future Potentials - Wood Annual Emission Rate (TPY)	Difference in Annual Emission Rate From Firing Bagasse and Wood (TPY)	PSD Significant Emission Rate (TPY)
		Nitrogen Oxides					
1	224,159	0.106	11.9	0.22	24.7	12.8	
2	202,015	0.117	11.8	0.22	22.2	10.4	
3	20,015	0.188	1.9	0.22	2.2	0.3	
4	271,160	0.114	15.5	0.22	29.8	14.4	
7	165,393	0.203	16.8	0.22	18.2	1.4	
8	317,258	0.14[f]	22.2	0.14[f]	22.2	0.0	
	Total		80.0		119.3	39.3	40
		Sulfur Dioxide					
1	224,159	0.011	1.2	0.025	2.8	1.6	
2	202,015	0.011[c]	1.1	0.025	2.5	1.4	
3	20,015	0.011[c]	0.1	0.025	0.3	0.1	
4	271,160	0.011[c]	1.5	0.025	3.4	1.9	
7	165,393	0.014	1.2	0.025	2.1	0.9	
8	317,258	0.06[f]	9.5	0.025	4.0	-5.6	
	Total		14.6	Total	15.0	0.4	40
		Particulate Matter					
1	224,159	0.178	20.0	0.178[e]	20.0	0.0	
2	202,015	0.190	19.2	0.190[e]	19.2	0.0	
3	20,015	0.162	1.6	0.162[e]	1.6	0.0	
4	271,160	0.113	15.3	0.113[e]	15.3	0.0	
7	165,393	0.017	1.4	0.017[e]	1.4	0.0	
8	317,258	0.026[f]	4.1	0.026[e]	4.1	0.0	
	Total		61.6		61.6	0.0	25
		Carbon Monoxide					
1	224,159	5.671	635.6	0.6	67.2	-568.4	
2	202,015	9.080	917.1	0.6	60.6	-856.5	
3	20,015	8.279	82.9	0.6	6.0	-76.8	
4	271,160	1.625	220.3	0.6	81.3	-139.0	
7	165,393	0.412	34.1	0.6	49.6	15.5	
8	317,258	0.412[f]	65.4	0.6	95.2	29.8	
	Total		1,955.3		360.0	-1,595.3	100
		Volatile Organic Compounds					
1	224,159	0.250[g]	28.0	0.013	1.5	-26.6	
2	202,015	0.250[g]	25.3	0.013	1.3	-23.9	
3	20,015	0.250[g]	2.5	0.013	0.1	-2.4	
4	271,160	0.250[g]	33.9	0.013	1.8	-32.1	
7	165,393	0.022	1.8	0.013	1.1	-0.7	
8	317,258	0.050[f]	7.9	0.013	2.1	-5.9	
	Total		99.4		7.8	-91.6	40

See Next Page for Footnotes.

Footnotes for Table 1.

[a] Based on distrubution of 1,200,000 MMBtu/yr to each boiler based on the maximum 24-hour average heat input rate and the number of available hours for each boiler over the next year starting on Novcmber 1, 2004 and the total combined annual available heat input rate to all boilers calculated as follows:

Boiler No.	Maximum 24-hr Avg. Heat Input Rate (MMBtu/hr)	Available Operating Hours (hours)	Annual Heat Input Rate (MMBtu/yr)	Pro-Rated Heat Input From Wood Chips (MMBtu/yr)	Comment
1	496	8,760	4,344,960	224,159	
2	447	8,760	3,915,720	202,015	
3	265	1,464	387,960	20,015	To be shut down January 2005.
4	600	8,760	5,256,000	271,160	
7	738	4,344	3,205,872	165,393	See Note 1.
8	936	6,570	6,149,520	317,258	To begin Operation January 2005. See Note 2.
		Total	23,260,032	1,200,000	

Note: 1. Permit limits operation outside of crop season to Boiler Nos. 7 and 8 or to Boiler Nos. 1, 2, 4, and 8. Maximum heat input is for the case of Boiler Nos. 1, 2, and 4 operating in off-season. Therefore, operating hours for Boiler No. 7 are based on the crop season operation only.

2. Boiler No. 8 annual heat input rate based on a permitted 75% capacity factor.

[b] Unless otherwise specified, represents average emission factor from two most recent stack tests.

[c] Stack tests for SO_2 have only been performed for Boiler Nos. 1 and 7. The lowest result of 0.011 lb/MMBtu was used for these boilers.

[d] Unless otherwise noted: based on AP-42, Compilation of Air Pollutant Emission Factors, Chapter 1.6, September 2003.

[e] Based on no increase expected above current actual PM emissions.

[f] Permitted emission rate.

ATTACHMENT B

WOOD FUEL MANAGEMENT PLAN

ATTACHMENT B

Wood Fuel Management Plan

United States Sugar Corporation
Clewiston Mill

October 2004

United States Sugar Corporation
111 Ponce DeLeon Avenue
Clewiston, Florida 33440

Submitted to
Florida Department of Environmental Protection
South District Office

TABLE OF CONTENTS

1.0 INTRODUCTION

United States Sugar Corporation (USSC) will implement inspection procedures for the wood chips delivered for fuel to its sugar mill located in Clewiston. The primary function of these procedures is to keep painted and chemically-treated wood, household garbage, toxic or hazardous non-biomass, and non-combustible waste material from being burned at the Mill. This Wood Chips Management Plan describes the implementation of these procedures.

The Plan includes a brief description of the USSC facility and its operations related to wood chips handling in Sections 2.0 and 3.0. Procedures for inspection of the wood chips at both the wood chips supply site and at USSC are described in Section 4.0. USSC procedures for recordkeeping of inspection results are provided in Section 5.0.

2.0 FACILITY INFORMATION

USSC is a bagasse-fired sugar cane processing facility located in Clewiston, Florida.

The major components of the facility include:

- sugar mill and boiling house
- five carbonaceous (bagasse) fueled boilers
- material storage and handling systems (e.g., wood chips, bagasse)
- sugar refinery
- ancillary plant equipment.

3.0 PROCESS DESCRIPTIONS

The following section describes the USSC Clewiston wood chips handling system process flow. Although the USSC facility also includes a bagasse handling system, only the wood chips are subject to the inspection procedure. Therefore, only this system is described in this plan.

3.1 Wood Chip Handling System

Wood chips will be delivered to the USSC facility by 20-ton trucks (typical). While unloading from the trucks, the wood chips will be discharged onto the ground. Heavy equipment will be used to transfer the wood chips to the designated storage area which is located at the bagasse storage area.

Wood chips will be reclaimed from the storage area through the use of heavy equipment. During normal operation, the wood chips will be placed on the Reclaim Conveyor. From the Reclaim Conveyor, the wood chips will discharge directly onto the boiler distribution conveyor, where it is fed to the boilers. During operations when the mill is down, all fuel for the boilers comes from the bagasse storage area via the Reclaim Conveyor. Wood chips may be mixed with bagasse in the storage area or fed alone onto the Reclaim Conveyor.

4.0 INSPECTION PROCEDURES

4.1 Wood Chips Supply Site

USSC will stipulate in its fuel supply contracts with the suppliers that the delivered wood chips must be substantially free of plastics, rubber, glass, and painted wood and contain only incidental amounts of chemically treated wood (e.g., chromium, copper, arsenic, creosote, pentachlorophenol).

To help ensure that wood chips delivered to the USSC facility meet the fuel quality specifications, the wood chip supplier will perform inspection and material segregation operations on each load of feedstock received at their facilities. The following description of the inspection and material segregation operations are typical of those operations performed at the wood chip yards supplying the USSC facility.

The bulk material feedstock at the originating wood chip yard will first undergo a "gross" material inspection to insure the segregation of the bulk wood chips from other mixed wastes (e.g., plastics, non-wood debris, scrap metal, concrete/soils). Trained personnel will be involved in oversight at this level of material inspection such that the majority of prohibited wastes are segregated from the bulk wood chips. After this operation, the wood chips will be further visually inspected and manually sorted (when applicable) to remove chemically-treated and painted wood, smaller mixed wastes, and other non-combustible materials. The "sorted" wood chips are then mechanically sized and screened (to actual contract specifications) prior to delivery to the USSC facility site.

4.2 USSC Wood Chip Storage

Upon delivery of the wood chips to the USSC Clewiston facility, each load will be visually inspected by the Fuel Handler stationed at the truck receiving dumping area. Loads which contain unacceptable, visible amounts (i.e., greater than fuel contract specified limits) of chemically treated and/or painted wood and other prohibited mixed wastes will be rejected by the inspector and prevented from discharging at the USSC facility fuel storage area. If the delivered load is acceptable based on the visual inspection, the truck will be staged for unloading.

5.0 RECORDKEEPING

Records of the wood chip deliveries and inspections outlined in this Plan will be maintained at the USSC Clewiston facility for review on an as-requested basis by FDEP. The records will typically include:

- Supplier,
- Time/date of delivery,
- Type of material,
- Delivery size, and
- Written record of visual inspection results (land accepted/rejected).

ATTACHMENT C

BOILER FUEL ANALYSIS

ATTACHMENT C
BOILER FUEL ANALYSIS

UNITED STATES SUGAR CORPORATION

PARAMETER	BAGASSE[a]	NOS. 1 & 2 FUEL OIL	NO. 6 FUEL OIL[b]	WOOD[c]
Heating Value				
Btu/lb (dry)	8,170	19,910	17,500	7,143
Btu/lb (wet) (min)	3,600	6.8	--	4,500
Density (lb/gal)	--	--	8.1	--
Moisture (%)	54		0.2	37
AVERAGE ULTIMATE ANALYSIS: (Dry Basis %)				
Carbon	48	86.9	87.3	50
Hydrogen	6	13.1	10.5	6
Nitrogen	0.35	0.005	0.28	0.40
Oxygen	42	0.03	0.64	41
Sulfur	0.06	0.16	1.0	0.07
Ash	4.5	<0.01	0.1	9.0

[a] Sources: U.S. Sugar Corporation, 2002. It represents average values, since biomass in particular could vary depending on environmental conditions, as well as harvesting procedures.

[b] Source: Perry's Chemical Engineers' Handbook, Sixth Edition.

[c] Based on New Hope Power Partnership average fuel specifications.

ATTACHMENT D

EMISSIONS FACTORS FOR WOOD CHIP BURNING FROM AP-42

Table 1.6-1. EMISSION FACTORS FOR PM FROM WOOD RESIDUE COMBUSTION[a]

Fuel	PM Control Device	Filterable PM		Filterable PM-10[b]		Filterable PM-2.5[b]	
		Emission Factor (lb/MMbtu)	EMISSION FACTOR RATING	Emission Factor (lb/MMbtu)	EMISSION FACTOR RATING	Emission Factor (lb/MMbtu)	EMISSION FACTOR RATING
Bark/Bark and Wet Wood	No Control[c]	0.56[d]	C	0.50[e]	D	0.43[e]	D
Dry Wood	No Control[c]	0.40[f]	A	0.36[e]	D	0.31[e]	D
Wet Wood	No Control[c]	0.33[g]	A	0.29[e]	D	0.25[e]	D
Bark	Mechanical Collector	0.54[h]	D	0.49[e]	D	0.29[e]	D
Bark and Wet Wood	Mechanical Collector	0.35[i]	C	0.32[e]	D	0.19[e]	D
Dry Wood	Mechanical Collector	0.30[j]	A	0.27[e]	D	0.16[e]	D
Wet Wood	Mechanical Collector	0.22[k]	A	0.20[e]	D	0.12[e]	D
All Fuels[m]	Electrolyzed Gravel Bed	0.1[m]	D	0.074[e]	D	0.065[e]	D
All Fuels[m]	Wet Scrubber	0.066[n]	A	0.065[e]	D	0.065[e]	D
All Fuels[m]	Fabric Filter	0.1[o]	C	0.074[e]	D	0.065[e]	
All Fuels[m]	Electrostatic Precipitator	0.054[p]	B	0.04[e]	D	0.035[e]	
		Condensible PM					
All Fuels[m]	All Controls/No Controls	0.017[q]	A				

Table 1.6-1. (cont.)

[a] Units of lb of pollutant/million Btu (MMBtu) of heat input. To convert from lb/MMBtu to lb/ton, multiply by (HHV * 2000), where HHV is the higher heating value of the fuel, MMBtu/lb. CPM = Condensible Particulate Matter. These factors apply to Source Classification Codes (SCC) 1-0X-009-YY, where X = 1 for utilities, 2 for industrial, and 3 for commercial/institutional, and where Y = 01 for bark-fired boiler, 02 for bark and wet wood-fired boiler, 03 for wet wood-fired boiler, and 08 for dry wood-fired boiler.

[b] PM-10 = particulate matter less than or equal to 10 microns in aerodynamic diameter. PM-2.5 = particulate matter less than or equal to 2.5 microns in aerodynamic diameter. Filterable PM = PM captured and measured on the filter in an EPA Method 5 (or equivalent) sampling train. Condensible PM = PM captured and measured in an EPA Method 202 (or equivalent) sampling train.

[c] Factor represents boilers with no controls, Breslove separators, Breslove separators with reinjection, and mechanical collectors with reinjection. Mechanical collectors include cyclones and multiclones.

[d] References 19-21, 88.

[e] Cumulative mass % provided in Table 1.6-6 for Bark and Wet Wood-fired boilers multiplied by the Filterable PM factor.

[f] References 22-32, 88.

[g] References 26, 33-36, 88.

[h] References 37, 38, 88.

[i] References 26, 39-41, 88.

[j] References 26, 27, 34, 42-54, 88.

[k] Reference 55-57, 88.

[l] All fuels = Bark, Bark and Wet Wood, Dry Wood, and Wet Wood.

[m] References 27, 58, 88.

[n] References 26, 59-66, 88.

[o] References 26, 67-70, 88.

[p] References 26, 71-74, 88.

[q] References 19-21, 25, 28, 29, 31, 32, 36-41, 46, 51, 53-60, 62 - 65, 67-69, 72-75, 88.

Table 1.6-2. EMISSION FACTORS FOR NO_x, SO_2, AND CO FROM WOOD RESIDUE COMBUSTION[a]

Source Category[c]	NO_x[b]		SO_2[b]		CO[b]	
	Emission Factor (lb/MMbtu)	EMISSION FACTOR RATING	Emission Factor (lb/MMBtu)	EMISSION FACTOR RATING	Emission Factor (lb/MMbtu)	EMISSION FACTOR RATING
Bark/bark and wet wood/wet wood-fired boiler	0.22[d]	A	0.025[e]	A	0.60[f,g,i,j]	A
Dry wood-fired boilers	0.49[h]	C	0.025[e]	A	0.60[f,g,i,j]	A

[a] Units of lb of pollutant/million Btu (MMBtu) of heat input. To convert from lb/MMBtu to lb/ton, multiply by (HHV * 2000), where HHV is the higher heating value of the fuel, MMBtu/lb. To convert lb/MMBtu to kg/J, multiply by 4.3E-10. NO_x = Nitrogen oxides, SO_2 = Sulfur dioxide, CO = Carbon monoxide.

[b] Factors represent boilers with no controls or with particulate matter controls.

[c] These factors apply to Source Classification Codes (SCC) 1-0X-009-YY, where X = 1 for utilities, 2 for industrial, and 3 for commercial/institutional, and where Y = 01 for bark-fired boiler, 02 for bark and wet wood-fired boiler, 03 for wet wood-fired boiler, and 08 for dry wood-fired boiler.

[d] References 19, 33, 34, 39, 40, 41, 55, 62-64, 67, 70, 72, 78, 79, 88-89.

[e] References 26, 45, 50, 72, 88-89.

[f] References 26, 59, 88-89.

[g] References 19, 26, 39-41, 60-64, 67, 68, 70, 75, 79, 88-89.

[h] References 30, 34, 45, 50, 80, 81, 88-89.

[i] References 26, 30, 45-51, 80-82, 88-89.

[j] Emission factor is for stokers and dutch ovens/fuel cells. References 26, 34, 36, 55, 60, 65, 71, 72, 75. **CO Factor for fluidized bed combustors is 0.17 lb/MMbtu.** References 26, 72, 88-89.

Table 1.6-3. (cont.)

Organic Compound	Average Emission Factor[b] (lb/MMBtu)	EMISSION FACTOR RATING
Vinyl Chloride	1.8 E-05[r]	D
o-Xylene	2.5 E-05[r]	D
Total organic compounds (TOC)	0.039[ai]	D
Volatile organic compounds (VOC)	0.013[aj]	D
Nitrous Oxide (N_2O)	0.013[ak]	D
Carbon Dioxide (CO_2)	195[al]	A

[a] Units of lb of pollutant/million Btu (MMBtu) of heat input. To convert from lb/MMBtu to lb/ton, multiply by (HHV * 2000), where HHV is the higher heating value of the fuel, MMBtu/lb. To convert lb/MMBtu to kg/J, multiply by 4.3E-10. These factors apply to Source Classification Codes (SCC) 1-0X-009-YY, where X = 1 for utilities, 2 for industrial, and 3 for commercial/institutional, and where Y = 01 for bark-fired boiler, 02 for bark and wet wood-fired boiler, 03 for wet wood-fired boiler, and 08 for dry wood-fired boiler.

[b] Factors are for boilers with no controls or with particulate matter controls.

[c] References 26, 34, 36, 59, 60, 65, 71-73, 75.

[d] References 26, 33, 34, 36, 59, 60, 65, 71-73, 75.

[e] References, 26, 35, 36, 46, 50, 59, 60, 65, 71-75.

[f] Reference 26.

[g] Reference 33.

[h] Reference 26, 50, 83.

[i] References 26, 34, 36, 59, 60, 65, 71-73, 75.

[j] References 26, 50.

[k] References 26, 35, 36, 46, 59, 60, 65, 70, 71-75.

[l] References 26, 36, 59, 60, 65, 70-75.

[m] References 26, 33, 36, 59, 60, 65, 70-73, 75.

[n] References 26, 33, 36, 59, 60, 65, 71-73, 75.

[o] Reference 34.

[p] References 26, 36, 60, 65, 71-75.

[q] References 26, 33.

[r] References 26.

[s] Reference 83.

[t] References 26, 72.

[u] References 35, 60, 65, 71, 72.

[v] References 26, 72.

[w] References 35, 60, 65, 71, 72.

[x] References 26, 33, 34, 59, 60, 65, 71-75.

[y] References 26, 28, 35, 36, 46 - 51, 59, 60, 65, 70, 71-75, 79, 81, 82.

[z] Reference 50.

[aa] Reference 26, 45.

[ab] References 26, 33, 34, 36, 59, 60, 65, 71-75, 83.

[ac] References 26, 35, 60, 65, 71, 72.

[ad] References 26, 33, 34, 36, 59, 60, 65, 71 - 73.

[ae] References 26, 33, 34, 35, 60, 65, 70, 71, 72.

[af] References 26, 33, 34, 36, 59, 60, 65, 71 - 73, 83.

[ag] References 26, 45.

[ah] References 26, 35, 60, 65, 71.

[ai] TOC = total organic compounds. Factor is the sum of all factors in table except nitrous oxide and carbon dioxide.

[aj] VOC volatile organic compounds. Factor is the sum of all factors in table except hydrogen chloride, chlorine, formaldehyde, tetrachloroethene, 1,1,1,-trichloroethane, dichloromethane, acetone, nitrous oxide, methane, and carbon dioxide.

[ak] Reference 83.

[al] References 19 - 26, 33 - 49, 51- 57, 77, 79 - 82, 84 - 86.