Department of Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

November 29, 2004

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Jose Alvarez, Senior V.P. of Planning and Operations
Sugar Cane Growers Cooperative of Florida, Inc.
Airport Road, P.O. Box 666
Belle Glade, FL 33430-0666

Re: Project No. 0990026-010-AC
Sugar Cane Growers Cooperative of Florida, Inc. – Glades Sugar House
Temporary Firing of Wood Chips Generated from Recent Hurricanes
Exemption from the Requirement to Obtain an Air Construction Permit

Dear Mr. Alvarez:

On October 11, 2004, the Sugar Cane Growers Cooperative of Florida, Inc. submitted an application to the Department's South District Office requesting temporary authorization to fire wood chips generated from the recent hurricane in the existing sugar mill boilers. The wood chips will displace bagasse and fuel oil. Wood chips will constitute no more than 25% of the bagasse/wood mixture fired in the boilers. On October 18th, the South District forwarded the application to the Department's Bureau of Air Regulation for processing due to possible PSD implications.

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 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 11/30/04 to the persons listed:

Mr. Jose Alvarez, SCGCF*
Ms. Kathy Lockhart, SCGCF
Mr. David Buff, Golder Associates Inc.
Mr. Ron Blackburn, SD Office
Mr. James Stormer, PBCHD
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) 11/30/04 (Date)

Subject to the following provisions and restrictions, the Sugar Cane Growers Cooperative of Florida, Inc. (SCGCF) 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. The SCGCF 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. The SCGCF 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. The SCGCF 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. The SCGCF 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, the SCGCF shall take the following actions within 3 working days of receiving the results:

   - Notify the Bureau of Air Regulation, the South District Office's air program, and the Palm Beach County Health Department of the results.
   - 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, the SCGCF 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, the SCGCF may submit to the Department's Bureau of Air Regulation a corrective action plan and may request to resumption wood chip firing. The SCGCF 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. Prior to loading on the conveyors, 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 170,000 tons of wood chips shall be fired (equivalent to 1,530,000 MMBtu) during the 2004/2005 crop milling season.
12. All air pollution control equipment shall be used to the maximum extent possible.
13. The Sugar Cane Growers Cooperative of Florida, Inc. 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.
15. Within 30 days of the end of the 2004/2005 crop milling season, the Sugar Cane Growers Cooperative of Florida, Inc. 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 June 1, 2005.

TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

PROJECT

Project No. 0990026-010-AC (Exemption)
Temporary Authorization to Fire Clean Wood Chips from Hurricane Debris

COUNTY

Palm Beach County

APPLICANT

Sugar Cane Growers Cooperative of Florida, Inc.
Glades Sugar House
ARMS Facility ID No. 0990026

PERMITTING AUTHORITY

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

November 22, 2004

{Filename: SCGCF Wood Chips - TEPD}

1. GENERAL PROJECT INFORMATION

The Sugar Cane Growers Cooperative of Florida, Inc. operates the Glades Sugar House in Belle Glade, 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). The existing sugar mill (SIC No. 2061) consists of six boilers that fire bagasse as the primary fuel and fuel oil as a startup and supplemental fuel.

Regulatory Categories

Title III: The existing facility is identified as 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 source of air pollution in accordance with Rule 62-212.400, F.A.C.

Project Description

The Department's South District Office received an application on October 11, 2004 requesting temporary authorization to fire clean wood chips generated from the recent series of hurricanes. Due to possible PSD implications, the South District Office forwarded this application to the Bureau of Air Regulation for processing. It was received in Tallahassee on October 18, 2004.

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. 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.

Except for NOx, the emissions rates for wood chips are all less than the emission rates for bagasse. For NOx, the tested emission rates for firing bagasse are generally lower than the emission factor for wood chips (0.22 lb NOx/MMBtu). However, Boilers 4 and 5 have tested higher (0.309 and 0.246 lb NOx/MMBtu, respectively) on bagasse than the factor for wood chips. The average NOx emission rate from firing bagasse for all of the boilers is 0.21 lb/MMBtu, which is 95% of the factor for wood chips. Because particulate loading will be less from firing wood chips and the boilers utilize wet scrubbers for control, particulate matter emissions from firing wood chips were conservatively assumed to be the same as for firing bagasse. Therefore, the hourly emission rates were not expected to increase.

The maximum expected annual heat input rate from firing wood chips will be 1,530,000 MMBtu per crop season, which is equivalent to approximately 170,000 tons of wood chips per year. This represents approximately 25% of the heat input to the sugar mill boilers in 2003. Using standard emission factors for wood firing and the permitted/tested emission rates from the existing boilers as described above, the applicant believes that firing wood chips to displace bagasse and oil will not result in increased hourly or annual emissions.

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 hourly emission rates from firing bagasse with those from firing wood chips.

Table 3A. Short-Term Emissions Rates

Pollutant	Emissions, lb/MMBtu						
	Boiler 1	Boiler 2	Boiler 3	Boiler 4	Boiler 5	Boiler 8	Mill Avg.
CO, bagasse	1.0	2.1	12.5	0.6	1.3	1.3	3.1
CO, wood	0.6	0.6	0.6	0.6	0.6	0.6	0.6
NOx, bagasse	0.17	0.16	0.20	0.31	0.25	0.19	0.21
NOx, wood	0.22	0.22	0.22	0.22	0.22	0.22	0.22
PM, bagasse	0.09	0.16	0.12	0.10	0.12	0.13	0.12
PM, wood	same	same	same	same	same	same	same
SO_2, bagasse	0.032	0.032	0.039	0.032	0.032	0.032	0.033
SO_2, wood	0.025	0.025	0.025	0.025	0.025	0.025	0.025
VOC, bagasse	0.081	0.368	0.50	0.051	0.059	0.082	0.190
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.

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, SO2, and CO emissions are all rated as "A" factors. The emission factor for VOC emissions is rated as a "D" factor.

As indicated by the above data, short-term emission rates from the mill are not expected to increase as a result of this request. 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 form 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, actual particulate matter emissions from firing wood chips will be much less than for firing bagasse.
- Similar to bagasse, wood chips generally contain minimal amounts of sulfur and will not generate significant amounts of SO2 emissions.
- NOx emissions are highly dependent on the fuel moisture content, boiler design and boiler operation. On average, NOx emissions from firing bagasse are about the same as from firing wood chips (~ 0.22 lb/MMBtu). Average NOx emissions from firing fuel oil are 0.33 lb/MMBtu (AP-42, Section 1.3), which is much higher than either of the carbonaceous fuels.

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.

Table 3B. Maximum Annual Emissions Rates

Pollutant	Emissions, Ton per Year						
	Boiler 1	Boiler 2	Boiler 3	Boiler 4	Boiler 5	Boiler 8	Total
CO, bagasse	165.9	347.1	1620.6	195.7	321.6	378.3	3029.3
CO, wood	98.8	98.8	77.5	193.6	145.0	170.6	784.4
NOx, bagasse	27.8	26.0	25.5	99.7	59.4	54.0	292.5
NOx, wood	36.2	36.2	28.4	71.0	53.2	62.5	287.6
PM, bagasse	15.5	26.9	15.3	33.4	29.6	37.0	157.7
PM, wood	15.5	26.9	15.3	33.4	29.6	37.0	157.7
SO2, bagasse	5.3	5.3	5.0	10.3	7.7	9.1	42.7
SO2, wood	4.1	4.1	3.2	8.1	6.0	7.1	32.7
VOC, bagasse	13.3	60.5	64.5	16.3	14.1	23.3	192.2
VOC, wood	2.1	2.1	1.7	4.2	3.1	3.7	17.0

Notes:

a. The maximum annual emissions rates are based on the emissions factors presented in Table 3A and 25% of the maximum expected heat input rates to the boilers.

b. The maximum heat input rates are conservatively based on the permitted boiler capacities and 4512 hours per year of operation. The maximum expected heat input rates are: Boiler 1 (329.489 MMBtu/year); Boiler 2 (329.489

MMBtu/year); Boiler 3 (258,425 MMBtu/year); Boiler 4 (645,442 MMBtu/year); Boiler 5 (483,235 MMBtu/year); Boiler 6 (568,512 MMBtu/year).

According to the above scenario, 25% of the facility's maximum expected annual heat input is 2,614,592 MMBtu/year. This is equivalent to 363,138 tons per year of bagasse based on a heating value of 7.2 MMBtu/ton or 290,510 tons per year of wood chips based on a heating value of 9.0 MMBtu/ton. The applicant provided additional information requesting the authority to fire 170,000 tons of wood chips during the crop milling season, which is equivalent to approximately 1,530,000 MMBtu. This amount of heat input represents about 25% of the facility's heat input for 2003. Therefore, the predicted annual emissions would be even lower.

As shown in the above table, the applicant does not believe that annual emissions will increase as a result of this project. Therefore, the project does not trigger PSD preconstruction review.

Department's Review

The firing of carbonaceous fuel (i.e., bagasse and wood chips) results in emissions of the following pollutants: particulate matter from inert substances in the fuel as well as incomplete fuel combustion; carbon monoxide and volatile organic compounds from incomplete fuel combustion; sulfur dioxide from sulfur in the fuel; and nitrogen oxides formed primarily from elevated combustion temperatures. For the boilers located at this sugar mill, particulate matter is controlled by wet scrubbers, which may also reduce emissions of carbon monoxide and sulfur dioxide. However, good boiler operation is critical to promoting efficient fuel combustion and minimizing most of these pollutants.

Similar to the applicant, the Department performed an analysis of the expected emissions impacts from firing wood chips to displace bagasse as the primary fuel and fuel oil as a startup and supplemental fuel. The results are presented in Attachment A at the end of this Technical Evaluation. The analysis is based on the same emission factors for bagasse and wood provided by the applicant and the AP-42 emissions factors for firing fuel oil (Section 1.3). Annual emissions estimates are based on firing the requested 170,000 tons of wood (1,530,000 MMBtu) in the six sugar mill boilers. The Department's review also shows that firing wood chips to displace bagasse and fuel oil will not result in significant emissions increases.

NOx is the only pollutant that could be expected to show a slight increase. NOx emissions are primarily a function of the combustion temperatures and can fluctuate substantially based on the moisture content of a carbonaceous fuel. Wood chips will be stored outside with bagasse large stockpiles. The moisture content of bagasse is heavily dependent on weather conditions, but is typically in the range of 50% to 55% moisture by weight. The moisture content of wood is typically less than 40% by weight. High moisture content usually means poorer combustion, reduced flame temperatures, and lower NOx emissions, but higher CO/VOC emissions.

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 1,530,000 MMBtu would result in an additional 38 tons per year of NOx emissions. Even under this most conservative scenario, NOx emissions from the project are below the PSD significant emission rate of 40 tons per year. However, the Department agrees with the applicant that NOx emissions will not 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 variability. From the crop season beginning in 1999 through the crop season ending in 2004, the facility averaged: 3,326,014 tons of sugarcane processed, 754,257 tons of bagasse fired, and 774,562,334 pounds of raw sugar produced. The ratio of bagasse fired to sugarcane processed averaged 0.227 ton bagasse/ton sugarcane and

varied from year-to-year by less than 2%. The ratio of raw sugar produced to sugarcane processed averaged 233 pounds of raw sugar/tons of sugarcane and varied by less than 4%. 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 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.

The Department also contacted a representative from the Solid Waste Authority of Palm Beach County (SWA) to discuss the types of materials collected, segregation, and the chipped product. The SWA is local, quasi-governmental organization that manages solid waste in the county. The SWA has been contacted by the Sugar Cane Growers Cooperative of Florida, Inc. regarding clean dry wood chips generated from the hurricane debris. Over the years, the SWA has worked closely with local municipalities and private suppliers to ensure proper segregation of wood waste materials in their curbside collection program. The result is a well-trained staff and good quality wood chips that are substantially free of chemically treated and painted wood as well as foreign materials such as glass, plastic, metal, rock, etc.

It is believed that the wood waste materials generated from hurricane debris are being handled in the same responsible manner and with good results. The SWA is field spreading much of the wood chips, which will be allowed to gradually decay. The wood chips could be, and have been, a source of clean dry wood for sugar mills within the county. It was noted that the chips are coarse and relatively large in size. Further reduction may be necessary as a boiler fuel.

Based on the application and available information, the Department has reasonable assurance that the 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 170,000 tons of wood chips will be fired during the 2004/2005 crop season.
- 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.

ATTACHMENT A
Sugar Cane Growers Cooperative of Florida, Inc.
Project No. 0990026-010-AC
Temporary Authorization to Fire Wood Chips Generated from Recent Hurricanes

Fuel Information

9.0 = MMBtu/ton, wood heating value (wet)
7.2 = MMBtu/ton, bagasse heating value (wet)
0.142 = MMBtu/gallon

1,530,000 = MMBtu/year from wood chips (~ 25% of the 2003 annual heat input from bagasse)
170,000 = tons of wood chips/year (equivalent)
212,500 = tons bagasse/year (equivalent)
10,774,648 = gallons of fuel oil/year (equivalent)

Short Term Emissions Rates

		CO, lb/MMBtu			NOx, lb/MMBtu			PM, lb/MMBtu			SO_2, lb/MMBtu			VOC, lb/MMBtu		
Boiler	MMBtu/hr	Bag.	Wood	Oil	Bag.	Wood	Oil	Bag.	Wood	Oil	Bag.	Wood	Oil	Bag.	Wood	Oil
1	292.1	1.000	0.600	0.035	0.170	0.220	0.331	0.090	0.090	0.087	0.032	0.025	1.106	0.081	0.013	0.002
2	292.1	2.100	0.600	0.035	0.160	0.220	0.331	0.160	0.160	0.087	0.032	0.025	1.106	0.368	0.013	0.002
3	229.1	12.500	0.600	0.035	0.200	0.220	0.331	0.120	0.120	0.087	0.039	0.025	1.106	0.500	0.013	0.002
4	572.2	0.600	0.600	0.035	0.310	0.220	0.331	0.100	0.100	0.087	0.032	0.025	1.106	0.051	0.013	0.002
5	428.4	1.300	0.600	0.035	0.250	0.220	0.331	0.120	0.120	0.087	0.032	0.025	1.106	0.059	0.013	0.002
8	504.0	1.300	0.600	0.035	0.190	0.220	0.331	0.130	0.130	0.087	0.032	0.025	1.106	0.082	0.013	0.002
Average	---	3.133	0.600	0.035	0.213	0.220	0.331	0.120	0.120	0.087	0.033	0.025	1.106	0.190	0.013	0.002
Total	2,317.9															

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

		CO, lb/MMBtu			NOx, lb/MMBtu			PM, lb/MMBtu			SO_2, lb/MMBtu			VOC, lb/MMBtu		
Boiler	MMBtu/yr	Bag.	Wood	Oil	Bag.	Wood	Oil	Bag.	Wood	Oil	Bag.	Wood	Oil	Bag.	Wood	Oil
1	192,809	96.4	57.8	3.4	16.4	21.2	31.9	8.7	8.7	8.4	3.1	2.4	106.6	7.8	1.3	0.2
2	192,809	202.4	57.8	3.4	15.4	21.2	31.9	15.4	15.4	8.4	3.1	2.4	106.6	35.5	1.3	0.2
3	151,224	945.2	45.4	2.6	15.1	16.6	25.0	9.1	9.1	6.6	2.9	1.9	83.6	37.8	1.0	0.2
4	377,698	113.3	113.3	6.6	58.5	41.5	62.5	18.9	18.9	16.4	6.0	4.7	208.9	9.6	2.5	0.4
5	282,778	183.8	84.8	4.9	35.3	31.1	46.8	17.0	17.0	12.3	4.5	3.5	156.4	8.3	1.8	0.3
8	332,680	216.2	99.8	5.8	31.6	36.6	55.1	21.6	21.6	14.5	5.3	4.2	184.0	13.6	2.2	0.3
Total	1,530,000	1,757.4	459.0	26.8	172.4	168.3	253.2	90.7	90.7	66.6	25.0	19.1	846.1	112.7	9.9	1.5

Note: 1,530,000 MMBtu for the 2004/2005 crop milling season is equivalent to firing 170,000 tons of wood chips. This is approximately 25% of the heat input to the sugar mill boilers during the 2003.

ATTACHMENT A
Sugar Cane Growers Cooperative of Florida, Inc.
Project No. 0990026-010-AC
Temporary Authorization to Fire Wood Chips Generated from Recent Hurricanes

Fuel Oil

1 % sulfur by weight No. 6 fuel oil
142 MMBtu/1000 gallon, heating value

Pollutant	AP-42 Factor	Units	lb/MMBtu
CO	5.00	lb/1000 gallon	0.035
NOx	47.00	lb/1000 gallon	0.331
PM	12.41	lb/1000 gallon	0.087
SO2	157.00	lb/1000 gallon	1.106
VOC	0.28	lb/1000 gallon	0.002

Note: Based on the Title V fee form, the facility fired the following amounts in 2003:
Total: 7,087,254 MMBtu/year
Bagasse: 6,818,997 MMBtu/year
Fuel Oil: 268,257 MMBtu/year
25% of the total heat input is 1,771,814 MMBtu/year

SENDER: *COMPLETE THIS SECTION*

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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. Jose Alvarez, Senior V.P. of Planning and Operations
Sugar Cane Growers Cooperative of Florida, Inc.
Airport Road, Post Office Box 666
Belle Glade, Florida 33430-0666

COMPLETE THIS SECTION ON DELIVERY

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X Evelyn B. Taylor ☐ Agent ☐ Addressee

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PS Form 3811, August 2001

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Street, Apt. No., or PO Box No.
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City, State, ZIP+4
Belle Glade, Florida 33430-0666

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