



**FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION**

BOB MARTINEZ CENTER
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

RICK SCOTT
GOVERNOR

CARLOS LOPEZ-CANTERA
LT. GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

(Sent by Electronic Mail – Return Receipt Requested)

Mr. James S. Gordon, Chief Executive Officer
Gainesville Renewable Energy Center (GREC), LLC
20 Park Plaza, Suite 320
Boston, Massachusetts 02116

Re: Initial Title V Air Operation Permit
Proposed Permit No. 0010131-004-AV
Gainesville Renewable Energy Center

Dear Mr. Gordon:

One copy of the proposed permit determination for the initial Title V air operation permit for the Gainesville Renewable Energy Center (GREC) is enclosed. This existing facility is located in Alachua County within the city of Gainesville and approximately 7 miles southeast of the city of Alachua in Alachua County, Florida. This letter is only a courtesy to inform you that the draft permit has become a proposed permit.

An electronic version of this determination has been posted on the Division of Air Resource Management's World Wide Web site for the United States Environmental Protection Agency (USEPA) Region 4 office's review. The web site address is (enter proposed permit number to access the files):

<http://approd.dep.state.fl.us/air/emission/apds/default.asp>

Pursuant to Section 403.0872(6), Florida Statutes, if no objection to the proposed Title V air operation permit is made by the USEPA within 45 days, the proposed permit will become a final permit no later than 55 days after the date on which the proposed permit was mailed (posted) to USEPA. If USEPA has an objection to the proposed permit, the final permit will not be issued until the permitting authority receives written notice that the objection is resolved or withdrawn.

If you should have any questions, please contact David L. Read, P.E., at 850/717-9075.

Executed in Tallahassee, Florida.

for Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

JFK/dlr

James S. Gordon, GREC, LLC: jgordon@amrenewables.com

Joshua H. Levine, American Renewables, LLC: jlevine@amrenewables.com

John W. Stanton, GRU: stantonjw@gru.com

Richard Rachal, DEP NED: richard.rachal@dep.state.fl.us

Tom Davis, P.E., ECT: tdavis@ectinc.com

Andrew Bass, P.E. ECT: abass@ectinc.com

David S. Dee, Esquire, ddee@gbwlegal.com

Cindy Mulkey, DEP SCO: cindy.mulkey@dep.state.fl.us

Ms. Ana Oquendo, US EPA Region 4: oquendo.ana@epa.gov

Ms. Natasha Hazziez, EPA Region 4: hazziez.natasha@epa.gov

Ms. Heather Ceron, EPA Region 4: ceron.heather@epa.gov
Ms. Lynn Scarce, DEP OPC: lynn.scarce@dep.state.fl.us
Ed Braddy, Mayor Gainesville: mayor@cityofgainesville.org
Board of County Commissioners, Alachua County: bocc@alachuacounty.us

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date,
pursuant to Section 120.52(7), Florida Statutes, with the
designated agency clerk, receipt of which is hereby
acknowledged.

Proposed Permit No. 0010131-004-AV

I. Public Notice

The Intent to Issue Air Permit issued to Gainesville Renewable Energy Center (GREC), LLC for the Gainesville Renewable Energy Center was clerked on April 29, 2014. GREC is located in Alachua County within the city of Gainesville and approximately 7 miles southeast of the city of Alachua in Alachua County, Florida. The Public Notice of Intent to Issue Air Permit was published in the Gainesville Sun on May 3, 2014. The draft Title V air operation permit was available for public inspection at the permitting authority's office in Tallahassee. Proof of publication of the Public Notice of Intent to Issue Air Permit was received on May 6, 2014.

II. Public Comment(s)

During the 30-day public comment period ending on June 2, 2014, 25 people commented by email or mail on the draft Title V air operation permit including requesting that a public meeting be held on the draft permit. In addition, another 22 people requested via email that a public meeting be held on the draft permit. Due to this heightened public interest pertaining to the draft Title V air operation permit, a public meeting to solicit additional public comments (written and oral) was held on August 5, 2014 at City of Gainesville Police Department, Hall of Heroes Community Room, 545 N.W. 8th Avenue, Gainesville, Florida. During the public meeting 30 people provided written comments on the draft Title V air operation permit while 13 people provided oral comments.

There is some overlap between the comments insofar as some people provided comments both during the 30-day comment period and at the public meeting and some people provided both written and oral comments during the public meeting. Due to the number of people making related and similar comments, the Department provides its response to the comments broken down by category of the comment and summarized below.

Comments Not Related to the Title V Air Operation Permit

There were numerous comments received both during the 30-day comment period and the public meeting that, while they may indicate a legitimate public concern or interest, are not related to the draft Title V air operation permit. These comments are listed below.

1. **Utility Rates:** Five people commented that GREC has caused a significant and unjustified increase in utility rates in Gainesville.
2. **Traffic:** Three people commented that GREC has caused a large increase in truck traffic due to biomass fuel delivery which has resulted in an overall increase in traffic congestion.
3. **Noise:** Five people commented that GREC has caused a noise problem in nearby communities. Three of these people stated that the noise problem has improved, but they would like assurances that the noise problem will not return.
4. **Water Usage and Quality and Wastewater Issues:** Three people commented that GREC has caused excessive water usage, degraded water quality and has had wastewater disposal issues. In addition, one of these commenters was concerned that the facility uses water from the local aquifer.
5. **Zoning:** Five people commented that GREC was not forthright during discussions of its location and its proximity to nearby communities. In addition, two of these commenters stated that the zoning decisions were questionable and that residents did not have sufficient say in the zoning process. One commenter stated that the zoning of the facility adversely affected home values.
6. **City/county decision making:** Four people commented on the poor decision making from local authorities, regarding the contract to buy power from GREC and the local authorities' permission to allow the plant. One suggested local-level corruption and believes the FBI should investigate.
7. **Fly and Bottom Ash Disposal:** One commenter would like information on the contents of the bottom ash and fly ash produced at the facility. Another commented that they had concerns on how the fly ash was disposed of offsite.
8. **Adequacy of Biomass (Wood) Stocks:** One commenter is concerned that as the local wood supplies dwindle, GREC may be forced to search for other fuel sources.

The above seven categories of comments by the public with regard to the GREC draft initial Title V air operation permit deal with concerns that are not air related issues. While these concerns may be legitimate issues in the eyes of the commenters, they are not nor could they be addressed through the Title V air operation permit. The issues of utility rates, traffic, noise, and zoning (home values), and city/county decision making are local issues that should be voiced at the appropriate county or city level and cannot be addressed through the issuance of an air operation permit. Likewise, the issues of water usage and quality and wastewater disposal along with fly and bottom ash properties and disposal cannot be addressed via an air operation permit, but rather through the appropriate regulatory authority. As a direct result of complaints, the Department notes that GREC did install a noise suppression system within the exhaust stack at a cost of nearly a half million dollars, which greatly reduced noise levels. With regard to the adequacy of the wood supply this is not an air issue. In addition, GREC conducted a detailed analysis prior to construction, which indicated sufficient high-quality biomass in the vicinity of the site.

Comments Related to the Title V Air Operation Permit

The following categorizes comments from the 30-day comment period and the public meeting which are considered related to the GREC initial draft Title V air operation permit. Each comment category is summarized with the Department's response to each category of comment given.

- 1. Public Health Concerns Related to the GREC Facility, the Permit and the Facility's Effect on the Gainesville Environment:** Fourteen people commented that they did not think the draft Title V permit was protective of the public health in that it allowed the GREC facility to emit harmful levels of pollutant emissions including air toxics such as dioxin and furans (D/F). It was also stated by several commenters that the permit did not incorporate recommended standards from the US EPA. Also two of the commenters were concerned about exposures for employees at GREC and other nearby facilities. One commenter was concerned about exposures on the nearby San Felasco trail system, a popular destination for runners, cyclists, and hikers. Four commenters raised concerns related largely to the existing Koppers Superfund Cleanup site in Gainesville and the use of trees from that site as a biomass fuel at GREC since the trees might have elevated D/F levels. Five commenters were concerned about the general amount of pollution and toxicity in their environment and did not want pollution from GREC to adversely affect the health of Gainesville area residents. Two other commenters specifically mentioned concerns about dioxin (due largely to history with the Koppers site).

Department's Response: The Department will focus on the biomass fuel delivery, preparation, storage and handling emission unit (EU 001) and the bubbling fluidized bed (BFB) boiler (EU 002) in its response since over 99% of the pollutant emissions come from these two sources at the GREC facility. Only particulate matter (PM) emissions come from the biomass fuel delivery, preparation, storage and handling emission unit while the BFB boiler is an emission source for PM along with other pollutants.

The BFB boiler went through a prevention of significant deterioration (PSD) review with corresponding best available control technology determinations (BACT) for PM, PM with a mean diameter of 10 microns or less (PM₁₀), carbon monoxide (CO), visible emissions (VE) and volatile organic compounds (VOC). There are also emission limits in the permit for nitrogen oxides (NO_x), sulfur dioxide (SO₂), hydrogen chloride (HCl), hydrogen fluoride (HF), ammonia (NH₃) slip and sulfuric acid mist (SAM). Regulation of these pollutants has co-benefits for also reducing hazardous air pollutants (HAP).

With regard to air toxics (i.e., HAP), the latest GREC air construction permitting action (Permit No. 0010131-003-AC, PSD-FL-411B) imposed the requirements of 40 Code of Federal Regulations (CFR) Part 60, Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters on BFB boiler. These requirements were also incorporated into the draft initial Title V permit (Permit No. 0010131-004-AV). This subpart was not finalized at the time the original PSD permit (Permit No. 0010131-001-AC, PSD-FL-411) was issued by the Department.

Subpart DDDDD has emission standards for mercury (Hg), hydrogen chloride (HCl), PM and CO (a surrogate for organic HAP emissions). In the draft Title V permit, the permittee also agreed to the HCl and hydrogen fluoride (HF) emission limits from the PSD permit. Note that the HCl emission limit in the PSD

permit is more stringent than the Subpart DDDDD HCl limit. Finally, the Subpart DDDDD PM/PM₁₀ limit that was incorporated in PSD permit and the Title V permit is more stringent than the original BACT PM/PM₁₀ limit. A summary of all the emission limits in the draft Title V permit to which the BFB boiler is subject is given below.

Parameter	Limit	Basis	Compliance
NO _x ^a	1.0 lb/MWH	NSPS Subpart Da	30-day rolling by CEMS
	0.070 lb/MMBtu	Applicant Request	24-hour rolling by CEMS
	416.4 TPY	Emission Cap	12-month, rolled monthly by CEMS
SO ₂ ^b	1.4 lb/MWH	NSPS Subpart Da	30-day rolling by CEMS
	0.029 lb/MMBtu	Applicant Request	24-hour rolling by CEMS
	170.7 TPY	Emission Cap	12-month, rolled monthly by CEMS
SAM ^c	1.4 lb/hr	Rule 62-4.070(3), F.A.C.	Initial and Annual Stack Test
CO ^d	0.12/0.08 lb/MMBtu	BACT	30-day rolling by CEMS
	310 ppmvd @3% O ₂	NESHAP Subpart DDDDD	
HCl ^e	2.22 lb/hr	Applicant's Request	Initial and Annual Stack Tests
	0.022 lb/MMBtu	NESHAP Subpart DDDDD	Stack Tests as Required by NESHAP Subpart DDDDD
HF ^e	2.22 lb/hr	Applicant's Request	Initial and Annual Stack Tests
Mercury ^f	8.0 x 10 ⁻⁷ lb/MMBtu	NESHAP Subpart DDDDD	Stack Tests as Required by NESHAP Subpart DDDDD
PM/PM ₁₀ (filterable) ^f	0.0098 lb/MMBtu	NESHAP Subpart DDDDD	Initial and Annual Stack Test
VE ^g	10% Opacity (20% once/hr)	BACT	6-minute blocks by COMS Initial Stack Test
VOC ^h	0.010/0.009 lb/MMBtu	BACT	Initial and Annual Stack Test
NH ₃ Slip ⁱ	10 ppmvd @ 7% O ₂	Rule 62-210.650, F.A.C. Rule 62-4.070(3), F.A.C.	Initial and Annual Stack Test
Heat Input Rate	1,358 MMBtu/hr	Rule 62-210.200(PTE), F.A.C.	4-hour, by 40 CFR 75, App. F

- a. lb/MWH means pounds per MW-hour (gross basis). lb/MMBtu means pounds per million Btu heat input. Emission cap for NO_x ensures that GREC will not trigger PSD for this pollutant.
- b. Emission cap for SO₂ ensures that GREC will not trigger PSD for this pollutant.
- c. SAM mass rate emission limit provides reasonable assurance that annual emissions will be less than 7 TPY and PSD is not triggered for this pollutant.
- d. A CO limit of 0.12 lb/MMBtu on a rolling 30-day average applies from the startup of boiler operation through 360 calendar days after certification of the CO-CEMS. A CO limit of 0.08 lb/MMBtu applies thereafter. The NESHAP limit of 310 ppmvd @3% O₂ applies from the initial operation of the boiler.
- e. The hourly limits for HF and HCl are imposed at the Applicant's request. Compliance will be demonstrated with an initial stack test. Subsequent stack tests shall be conducted annually.
- f. Filterable (F) fraction as measured by EPA Method 5. An initial test using EPA Methods 5 and 202 will be conducted to determine the F and condensable (C) PM emission rate, but no emission limit will be set for (F+C) PM. The new 0.0098 lb/MMBtu limit from NESHAP Subpart DDDDD is more stringent than the previous BACT and Subpart Da limit of 0.015 lb/MMBtu and thereby replaces these limits in this permit.
- g. During startups, shutdowns and malfunction the following limits apply: 20% opacity (6-minute blocks) except for one 6-minute block per hour of 27%.
- h. A VOC limit of 0.010 lb/MMBtu applies from the startup of boiler operation through 360 calendar days after certification of the CO-CEMS. A VOC limit of 0.009 lb/MMBtu applies thereafter.
- i. Ammonia (NH₃) slip in parts per million by dry volume at 7% oxygen (ppmvd @ 7% O₂).

The EPA Subpart DDDDD controls HAP emissions. The EPA decided not to include a D/F limit in the subpart. Therefore there is no D/F emission limit for the boiler in the draft Title V permit. However, the permittee agreed to a D/F limit and a compliance testing requirement in a settlement agreement with Alachua County and other parties (see item No. 5 below). This agreement is enforceable by parties to the agreement.

The permittee installed a selective catalytic reduction system (SCR) on the BFB boiler in order to control NO_x emissions. This is one of the few biomass power plants in the country to have an SCR system. An

additional co-benefit of an SCR system is that it helps to control emissions of D/F. Vendors such as CRI state that a SCR catalyst is also an effective system to reduce D/F¹. This benefit is elsewhere corroborated in the literature as well as the destruction of VOC by SCR.^{2, 3}

According to one publication, SCR catalyst reduced D/F emissions by approximately a factor of 100 at the IVAGO waste-to-energy (WTE) plant in Ghent, Belgium. The measured D/F emissions were less than 0.050 total nanograms per dry standard cubic meter (ng total/dscm) (value estimated from TEQ by the Department).⁴ Similar experience was documented at the MVA WTE plant in Spittelau, Austria (a 20-year old installation) where D/F emissions are between roughly 0.1 to 0.3 ng total/dscm.⁵

A SCR was installed at the Algonquin Power WTE facility in Ontario, Canada for the dual purpose of NO_x and D/F reduction. A paper prepared by the government and the operator states:⁶

“In evaluating the technology options, it was suggested that the operating costs for SNCR would be lower than for SCR. However, the SCR system had the potential advantage of dioxin and furan destruction. Thermal oxidation of PCDD/F in the presence of a catalyst produces water, carbon dioxide (CO₂) and HCl. Therefore, SCR was the chosen technology after the evaluation of pollution control options was complete”.

According to a report prepared for the Canadian Council of Ministers of the Environment (CCME), “during commissioning testing (of the SCR system) in November 2001 the facility recorded three D/F emission concentration values well below the Environment Canada Level of Quantification (LOQ) of 32 picograms toxic equivalent (TEQ) per normal cubic meter at 11% oxygen (pg TEQ/Nm³) @11% O₂”.⁷ This equates to 0.045 ng TEQ/Nm³ @7% O₂ and roughly 2 ng total/dscm. As a result of this information, the Department does not believe there will be any significant D/F emissions from the BFB boiler.

For biomass handling, the following opacity limits were incorporated into the permit:

As determined by EPA Method 9, there shall be no visible emissions (VE) greater than 10% opacity, except for one 6-minute period no greater than 20% from the outlets of the drop points, transfer points and dust collectors associated with this emission unit. VE from the Screen/Hog building baghouse and bin vent filters of the metering bins shall be no greater than 5% opacity.

In addition, a best management practices (BMP) plan was incorporated into the permit to minimize PM emissions from the biomass fuel delivery, preparation, storage and handling emission unit. This BMP plan has been updated to address fugitive dust and odor issues associated with the GREC facility during its initial startup operations. The latest BMP plan is included as an appendix in the draft Title V air operation permit.

With regard to not incorporating all EPA requirements into the draft Title V permit, the Department disagrees. As already mentioned, NESHAP 40 CFR 63, Subpart DDDDD has been incorporated into the draft Title V permit with regard to the BFB boiler. In addition, the requirements of New Source Performance Standards (NSPS) 40 CFR 60 - Standards of Performance for Electric Utility Steam Generating Units is also in the permit with regard to the boiler. The draft Title V permit subjects the emergency equipment (generator and fire pump) at the GREC facility to the requirements of NSPS 40 CFR 60, Subpart IIII - Standards of

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- ¹ Paper. Tang, H.S. The Shell Dioxin Destruction System. Solid & Hazardous Waste Management Conference, Singapore, February 2003.
 - ² E.g. Tzimas, E., and Peteves, S.D. NO_x and Dioxin Emissions from Waste Incineration Plants. Joint Research Center, European Commission. Circa 2001.
 - ³ E.g. Leibacher, U., Bellin, C., and Linero, A. High Dust SCR Solutions. International Cement Review. December 2006.
 - ⁴ Paper. IVAGO and Seghers. Seghers deDlnOX: Catalytic Reduction with Simultaneous Dioxin Destruction in a Municipal Waste Incinerator in Belgium. Paris NO_x Conference. 2001.
 - ⁵ Paper. Fernwaerme Wien GmbH and Integral Umwelt. Latest Developments and the State of the Art of Catalytic DeNO_x Plants after 15 years of Experience. Paris NO_x Conference. 2001.
 - ⁶ Paper. A Case Study of the SCR System at the Algonquin Power WTE Facility. Annual NA WTE Conference. NAWTEC 16-1903. 2008. www.seas.columbia.edu/earth/wtert/sofos/nawtec/nawtec16/nawtec16-1903.pdf
 - ⁷ Report. Review of Dioxins and Furans from Incineration in Support of a Canada-wide Standard Review. CCME Project #390-2007. December 15, 2006.

Performance for Stationary Compression Ignition Internal Combustion Engines and 40 CFR 63, Subpart ZZZZ - National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The cooling tower at the facility was prohibited from using chromium-based water treatment chemicals to avoid being subject to NESHAP 40 CFR 63, Subpart Q - National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers.

The Department believes that the GREC facility will comply with all applicable state and federal air pollution regulations. In addition, the Department believes that the draft Title V permit is protective of the public health and minimizes HAP emissions for the following reasons:

- The biomass boiler includes the following state-of-the-art pollution controls: a bubbling fluidized-bed boiler design to ensure complete combustion; a high-efficiency membrane baghouse to remove particulate matter; an SCR system to control NO_x, D/F, and other organic compounds; an in-duct sorbent injection system (IDSIS) to control acid gases (e.g., HCl, HF and SO₂).
 - The permit establishes BACT emission limits and controls for the BFB boiler and all other emission units for three key pollutants (CO, PM/PM₁₀, and VOC) along with the associated compliance, reporting and recordkeeping requirements incorporated into the permit;
 - The BMP plan that is incorporated into the permit to control PM emissions from the biomass fuel delivery, preparation, storage and handling emission unit; and
 - The incorporation of all applicable NESHAP and NSPS federal requirements into the permit.
2. **Emission Standards and Controls:** Three people commented that they did not believe that the draft Title V permit required adequate pollution control equipment for the BFB boiler.

Department's Response: The GREC facility uses state-of-the-art pollution control equipment on the BFB boiler, which is by far the biggest emitter of pollution at the facility. First it is required to use clean woody biomass as its fuel, which is inherently low in sulfur and HAP metals. Clean natural gas is the only allowed startup fuel. It has an in-duct sorbent injection system (IDSIS) where an alkaline sorbent is injected to control acid gases such as HCl and SO₂. It then uses a SCR system to control NO_x emissions with a co-benefit of controlling D/F (see item No. 1 above). Then a baghouse is used to control PM emissions. A baghouse offers superior performance when compared to an electrostatic precipitator (ESP), especially with regard to controlling emissions of PM with a mean diameter of 2.5 microns or less (PM_{2.5}). Also, the baghouse was designed for the original NESHAP Subpart DDDDD PM standard, which is 18% more stringent than the final Subpart DDDDD limit. As a result, the baghouse is conservatively designed. Finally, due to the alkaline properties of the fly ash generated by the combustion of biomass, the fly ash cake on the bags in the baghouse provides further control of acid gases. The Department believes that the BFB boiler has more than adequate pollution control equipment which is specified in the draft Title V permit.

With regard to the rest of the facility, a BMP plan along with opacity standards are used to control emissions of PM from the biomass fuel delivery, preparation, storage and handling emission unit, which is the only other significant emitter of pollution at the facility. Opacity and PM standards are set for the ash handling, storage and shipment emission unit and the alkaline sorbent storage silo emission unit. A drift rate requirement was set for the cooling tower while the emergency equipment must meet applicable federal NSPS and NESHAP requirements.

3. **Objectionable Odors:** Twelve people commented that there are objectionable odors coming from the GREC facility when they are downwind and additional measures must be adopted to control the odors. One of the commenters attributes odors specifically to the wood pile (as opposed to stack emissions). Other commenters said that the poorly maintained fermenting woodpile is emitting odors, spores, and other biota to surrounding neighborhoods and that the permit needs to be rewritten to include stronger protections than "Objectionable Odor Prohibited," and the use of "best management practices" to "reduce the potential for spontaneous combustion of stored woody biomass and odors." Commenters believe that odors emanating from the GREC plant environs have and continue to unreasonably interfere with the comfortable use and enjoyment of life or property, creating a nuisance that may also be harmful or injurious to human health or welfare. Commenters believe that these types of odors must be eliminated and prohibited at the risk of permit suspension.

Department's Response: The permittee has addressed this issue through a series of best management practices including the installation a "Pro Sweet" spray / misting system in April 2014 to reduce offsite migration of odors from the wood yard. The Compliance Authority has made numerous inspections of the GREC facility and the surrounding areas and reports that objectionable odors do not appear to be a significant problem. However, the Compliance Authority will continue to make inspections and if objectionable odors become a problem they have the authority to address the issue. Further, the Department believes that the conditions set forth in the BMP plan (excerpted see below) are sufficient to address the potential for spontaneous combustion of stored woody biomass and reduce/control odors, particularly by adhering to the "first in/first out" practice.

D. Best Management Practice – Storage Pile Management

1. Woody biomass storage piles are managed on a first-in/first-out basis to minimize the accumulation of older fuel.
2. Woody biomass storage areas are managed to avoid excessive wind erosion.
3. A woody biomass fugitive dust management plan has been developed and implemented onsite (see preceding section C. BMP – Woody Biomass Fugitive Dust Management Plan). The plan identifies warning signs for conditions that could result in excessive fugitive dust formation. Plant personnel are trained to be observant of these warning signs.
4. Mechanical moving of woody biomass by front end loaders and other supporting equipment shall be minimized on high wind event days. High wind days occur when sustained wind speeds exceed 18 mph for one hour or longer duration. Mechanical moving will be conducted at grade level to minimize airborne dust, except as necessary to stack incoming material.
5. Daily visual observations of the woody biomass storage areas are performed, and if conditions are right for fugitive dust formation, procedures from the fugitive dust plan shall be implemented.

E. Best Management Practices – Woody Biomass Odor Management Plan

In addition to the first-in/first-out management of the wood stockpiles described in the previous section, GREC will also implement an odor control system that broadcasts an odor control substance which will eliminate most wood mulch odor. This system will be in service whenever weather conditions exist (e.g. a low cloud ceiling or winds out of the northeast) that would cause odors to carry over to the Alachua County Public Works facility.

The odor control system will be functional by April 15, 2014, and consists of a manifold that disperses a vaporized stream of an odor neutralization product called Prosweet.

F. Best Management Practices – Fire Prevention /Spontaneous Combustion Minimization

1. Plant personnel shall contact the local City of Gainesville Fire Department to review the fire management plan (SMP 4). The plan will be maintained on site. Upon finalization of the plan, all plant personnel will be trained to familiarize them with the plan, and annual refresher training shall be required of all plant personnel. The Gainesville Fire Department will be invited to visit the plant and review the fire management plan on an annual basis.
2. The fire management plan includes a requirement to train onsite personnel to handle incipient fires and training on the identification of potential fire hazards. The training will be done on an annual basis and will utilize insurance company experts and other outside consultants. It shall be in accordance with NFPA 31.3.6.1, Outside Storage of Wood Chips and Hogged Material, except for sections 31.3.6.2.1(4) and 31.3.6.3.1 requiring an access roadway to the top of the pile. In addition, a detailed training plan with appropriate signoffs will be developed. All plant employees will be trained at the appropriate levels corresponding to their job requirements. GREC will install and maintain equipment for plant personnel to handle incipient fires, to include five (5) hose stations and 13 total fire hydrants. The location of the fire hydrants and hose cabinets are shown in the attached drawing D014200-FWSL11001 "GREC Fire Water System

- Underground Plan.” Fire extinguishers will be mounted at the truck unloading station, the screen/hog structure, the stacker/reclaimer, and on each dozer and tractor. The local fire department shall be invited to participate in onsite training. The emergency plan has been developed to monitor, control and extinguish spot fires and promptly report to the fire department.
3. Daily observations of the woody biomass storage areas are performed by plant personnel to identify potential fire hazards. The temperatures of the piles are checked on a daily basis with a probe with a thermocouple on the end and recorded. Plant personnel are trained on the identification of potential for spontaneous combustion, which includes steaming, warm pile material, pungent incense odor, and surface hot spots.
 4. Spontaneous combustion and odor problems shall be minimized by the rotation of the fuel in the live storage pile every ten (10) days and the rotation of the fuel in the manual pile every 30 days. The fuel in the manual pile will be utilized on a first in, first out basis to minimize aging of the material. This will be accomplished by pushing fuel from the south end of the pile to Underpile Reclaimer #2, while adding new fuel to the pile at the north end. The wheeled dozers used to reclaim fuel will remove fuel from the grade level to prevent old fuel from accumulating in the center of the pile. The fuel in the live storage pile will be divided into two zones: one side will receive new fuel; the other side will be used for reclaiming. These zones will be rotated when the reclaimed side is depleted. Wood yard personnel will be trained in these pile management methods, and their work will be supervised to ensure adherence to these practices. The attached drawing 017-00-G1, “GREC Wood Yard General Arrangement,” shows the locations of all wood yard equipment and storage areas.
 5. Signs are posted at GREC to identify potential fire hazards. No smoking will be allowed in the wood yard or the plant, except in designated smoking areas. Any processes utilizing cutting torches or welding will require the use of a work permit issued by the Control Room. Fire blankets, fire extinguishers and wetting of nearby combustible material will be required during such operations. A fire watch of sufficient duration will be posted in the work area upon completion of any cutting torch or welding work.
 6. Dozers are cleaned on a daily basis to prevent the buildup of combustible products on the machines. They will be trained to be aware of vehicle exhaust systems and their potential as ignition sources in the wood yard.
 7. All wood yard systems, including truck dumpers, conveyors, screens, hoppers, belt magnet, reclaim conveyors, transfer points, dust collectors, and radial stacker/reclaimer are walked down at least once per shift to check for cleanliness and proper operation. Any accumulations of fuel shall be removed. Any malfunctioning equipment shall be adjusted or repaired within a reasonable time period.
 8. Power operated front end loaders and dozers are used for pile management and will be available for use in firefighting.
 9. The fuel yard management includes procedures to monitor and control the fuel pile size (i.e., both height and outer dimensions) in accordance with the design drawings. Outer markers will be installed indicating outside bounds of the piles and a concrete barrier wall will be located as shown on the attached drawing 017-00-G1, “GREC Wood Yard General Arrangement.” Markers will also be established to monitor pile height for the live and manual storage piles to ensure permitted heights are not exceeded. The post and wall will be inspected and repaired if damaged and will be maintained to prevent material buildup on the wall. All new fuel material that is received at the site passes through a tramp metal magnet and metal detector to prevent ferrous material from getting into the storage pile areas.
 10. Compaction of woody biomass materials in the storage areas shall be minimized. Vehicle traffic atop the piles is prohibited except in emergencies. As such, a roadway will not be maintained to the top of the pile as agreed to under Petition DB-10-47, City of Gainesville, FL.

4. **Inadequate Quality Control of the Biomass Fuels:** Fourteen people commented that GREC does not test fuels to ensure they are clean and uncontaminated, burns fuels from the Cabot-Koppers Superfund cleanup site, and in general does not have adequate quality control of the biomass fuel burned in the BFB boiler. Five commenters mentioned lack of confidence in the source of fuels for the facility. One commenter recounted a story of a farmer finding nails in his field and attributing this to the burning of pallets at GREC. One commenter used to receive wood chips from a facility that now provides wood for GREC and found non-wood materials, such as pieces of tires, hoses, and plastic, in the shipments – the commenter is concerned that similar impurities are in the shipments received by GREC. Three commenters stated that GREC should have to keep accurate records regarding their fuel intake, to reflect the sources and weight of shipments, the types of wood, and the presence of non-woody materials. One commenter would like proof that treated wood is not being burned at the facility. One commenter would like access to information on the actual electricity capacity factor of the facility. Four commenters stated that the permit requires GREC to burn only “clean fuels,” defining these to include urban wood waste. However, there are no provisions to ensure that contaminated fuels are not burned at the GREC facility, as the permit does not contain testing provisions for the fuel. The permit allows burning of pallets, dunnage, and “urban wood,” all wood sources that can be contaminated with preservatives and other chemicals. The permit should be rewritten to require a statistically valid program of fuel testing to ensure that no contaminated materials are burned at the facility.

Department’s Response: Specific Condition A.2 for the biomass fuel delivery, preparation, storage and handling emission unit of the draft Title V permit states:

A.2. Clean Woody Biomass: The fuel to be received, handled, stored and processed shall consist of clean, untreated woody biomass as defined below. The permittee is specifically prohibited from accepting biomass in the form of construction and demolition (C&D) debris. The BMP plan referenced in **Specific Condition A.4.** of this subsection shall be followed.

Fuel Type	Description
In-forest residue and slash	Tops, limbs, whole tree material and other residues from soft and hardwoods that result from traditional silvicultural harvests.
Mill residue	Saw dust, bark, shavings and kerf waste from cutting/milling whole green trees; fines from planing kiln-dried lumber; wood waste material generated by primary wood products industries such as round-offs, end cuts, sticks, pole ends; and reject lumber as well as residue material from the construction of wood trusses and pallets.
Pre-commercial tree trimmings and understory clearings	Tops, limbs, whole tree material and other residues that result from the cutting or removal of certain, smaller trees from a stand to regulate the number, quality and distribution of the remaining commercial trees; and forest understory which includes smaller trees, bushes and saplings.
Storm, fire and disease debris	Tops, limbs, whole tree material and other residues that are damaged due to storms, fires or infectious diseases.
Urban wood waste	Trees and other clean, woody matter generated by households, landscaping contractors or power line/roadway clearance contractors that have been cut down for land development, right-of-way clearing or general landscape management purposes.
Recycled industrial wood	Wood derived from used pallets packing crates; and dunnage disposed by commercial or industrial users.
Supplementary fuel material	Clean agricultural residues (i.e., rice hulls, straw, etc.; no animal wastes or manure); and whole tree chips and pulpwood chips.

The BMP plan in the draft Title V permit has the following conditions with regard to the types of biomass fuels that can be fired in the BFB boiler:

A. Best Management Practices – Clean Woody Biomass Fuel Definitions and Limitations for the Gainesville Renewable Energy Center

1. In-forest residue and slash: Tops, limbs, whole tree material and other residues from soft and hardwoods that result from traditional silvicultural harvests.
2. Mill residue: Sawdust, bark, shavings and kerf waste from cutting/milling whole green trees; sawdust and planer shavings from kiln-dried lumber; wood waste material generated by primary wood products industries such as round-offs, end cuts, sticks, pole ends; and reject lumber as well as residue material from the construction of wood trusses and pallets.
3. Pre-commercial tree trimmings and understory clearings: Tops, limbs, whole tree material and other residues that result from the cutting or removal of certain smaller trees from a stand to regulate the number, quality, and distribution of the remaining commercial trees; forest understory which includes smaller trees, bushes, and saplings.
4. Storm, fire and disease debris: Tops, limbs, whole tree material and other plant residues originating from urban or rural areas that are damaged due to storms, fires or infectious diseases.
5. Urban wood waste: Trees and other clean, woody matter generated by households, landscaping contractors, or power line/roadway clearance contractors that have been cut down for land development, right-of-way clearing, or general landscape management purposes.
6. Recycled industrial wood: Wood derived from used pallets packing crates; and dunnage disposed by commercial or industrial users.
7. Supplementary fuel material: Clean agricultural residues (i.e., rice hulls, straw, etc.; no animal wastes or manure); and whole tree chips and pulpwood chips.
8. Prohibited materials: The following items are not considered woody biomass and are expressly prohibited:
 - a. those materials that are prohibited by state or federal law;
 - b. plastics;
 - c. woody biomass that has been chemically treated or processed;
 - d. municipal solid waste;
 - e. paper;
 - f. treated wood such as CCA or creosote;
 - g. painted wood;
 - h. wood wastes from landfills; and
 - i. construction and demolition debris [reference: Department Final Order].

The BMP plan in the draft Title V permit also has the following conditions to ensure the quality of the biomass fuels that can be fired in the BFB boiler:

G. Best Management Practices – Quality Assurance of Clean Woody Biomass

1. The feedstock for the bubbling fluidized bed (BFB) boiler consists of clean woody biomass material that will be harvested (as necessary) and processed at one or more offsite fuel preparation areas where it will be sized as necessary before being loaded onto trucks for delivery to GREC.
2. GREC's biomass purchasing practices via purchase orders, supply contracts, or other means will include a biomass specification that meets the definition of woody biomass as identified in the PSD permit (Subsection 3-A, Specific Condition 6) and this BMP Plan.
3. Within the power purchase agreement (PPA) between GREC and Gainesville Regional Utilities (GRU), Minimum Sustainability Standards for forest-produced biomass were established. These standards state that GREC:

- a. shall employ, or shall indirectly employ through contract, at least two professional foresters to manage the biomass fuel procurement for the facility;
- b. shall manage the biomass fuel procurement for the facility in accordance with the following general goals:
 - i. promote forest health,
 - ii. provide for long-term forest productivity by integrating reforestation with harvesting,
 - iii. seek to protect forest resources from threats such as wildfire, pests and diseases,
 - iv. safeguard critical water, soil and habitat resources, and
 - v. apply an ecosystem perspective to preserve biological diversity;
- c. shall only utilize biomass fuel harvested in compliance with the Best Management Practices for Silviculture published by the Florida Department of Agriculture and Consumer Services, Division of Forestry (“BMP”). Presumption of BMP compliance shall be given to harvested properties covered by a Notice of Intent to Implement (“BMPNOII”) in accordance with Rule 5I-6.004 FAC. Up to five percent of the harvest areas not covered by a BMPNOII shall be randomly inspected by GREC’s foresters to ensure BMP compliance;
- d. shall not utilize biomass fuel harvested during the conversion of a natural forest to plantation forest. Natural forest shall be defined as a forest ecosystem that was naturally regenerated and contains most of the principal characteristics and key elements of native ecosystems, such as complexity, structure and bio-diversity;
- e. shall not utilize biomass fuel harvested from a legally-designated conservation area except to the extent that the applicable conservation easement, agreement or similar such document does not specifically prohibit harvesting of such biomass. This does not preclude the use of biomass fuels harvested from publicly owned lands where such harvesting is compatible with the management goals and objectives as determined by the managing agency;
- f. shall not utilize stumps as biomass fuel except to the extent that such stumps are harvested according to a written contract accompanied by a written statement from a certified professional forester that the harvesting of the identified stumps is desired for ecological and environmental reasons;
- g. shall not utilize biomass fuel derived from non-native species identified as invasive by the Florida Department of Environmental Protection unless being harvested as a part of a forest or ecosystem restoration program;
- h. shall require landowners contracting to supply biomass fuel to replant harvested tracts within three years as a condition for renewing supply contracts from those tracts after harvest;
- i. shall require its fuel suppliers to attend an annual sustainability and best practices seminar organized by GREC; and
- j. shall only utilize biomass fuel that is harvested in compliance with the Florida Endangered and Threatened Species Act (s. 379.2291), the Florida Endangered Species Protection Act (s. 379.411), the Preservation of Native Flora of Florida Act (s.581.185) and the federal Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531-1544). Biomass fuel obtained by forest harvests that result in damaging populations of endangered or threatened species, as designated by the State of Florida, is not eligible for purchase by GREC. Any lack of eligibility for purchase based on this standard shall not necessarily extend to an entire parcel or other unit of property, but only the area necessary for maintenance of the endangered and threatened species. GRU and GREC shall collaborate to ensure compliance with this standard.

4. In addition to the Minimum Sustainability Standards within the PPA, GREC has also contractually agreed to the following provisions within the PPA:
 - a. GREC shall hire an independent forestry consultant to conduct annual audits of their compliance with the Minimum Sustainability Standards for Forest-Produced Biomass. The independent forestry consultant shall conduct inspections and visits to a randomly selected sample of harvesting sites no less than twice per calendar year;
 - b. GREC shall institute a documentation policy to ensure that fuel suppliers comply with biomass fuel supply contract terms;
 - c. Supply contracts for forest-produced biomass fuel shall incorporate the Minimum Sustainability Standards for Forest-Produced Biomass and fuel suppliers shall agree to compliance with these standards;
 - d. Each supply contract for forest-produced biomass must be signed by a professional forester representing the fuel supplier certifying that the professional forester has been engaged by the fuel supplier to ensure compliance with the Minimum Sustainability Standards for Forest-Produced Biomass and confirming the professional forester's understanding of and commitment to fulfill this responsibility;
 - e. Each delivered load of biomass fuel must be labeled by a unique identification number ("ID") corresponding to the supplier ID, contract ID, tract ID, crew, transport, date and time and be accompanied by a manifest signed by the harvesting foreman and driver listing such information. If possible, GREC shall seek to use electronic media to increase the accuracy of the information;
 - f. GREC shall record the delivery identification information;
 - g. GREC shall inspect at least ten percent (10%) of all delivered loads to assure compliance with the Minimum Sustainability Standards for Forest-Produced Biomass;
 - h. GREC shall keep on file harvesting contracts, cutting agreements, and other related documents for each harvested area and these files shall be available for inspection by GRU for a period of three (3) years following harvest;
 - i. GREC shall conduct semi-annual inspections of all fuel suppliers to verify compliance with GREC's record-keeping procedures and harvesting practices;
 - j. GREC shall reject non-complying deliveries of biomass fuel; and
 - k. GREC shall suspend deliveries from a biomass fuel supplier for a period of no less than one (1) year if the fuel supplier is found to be in non-compliance in three (3) separate instances within any one-year period.
5. The woody biomass feedstock will be delivered to the GREC facility in vehicles designed to prevent release in compliance with F.S. § 316.520 (Loads on vehicles).
6. For each shipment of woody biomass, GREC shall record the date, quantity and a description of the material received.
7. GREC shall inspect each shipment of woody biomass upon receipt for any material not specifically identified in this plan. If GREC identifies any such material, the material shall be rejected, as is consistent with the terms of the PPA between GREC and GRU.
8. The feedstock for the bubbling fluidized bed (BFB) boiler will consist of clean woody biomass material that will be harvested (as necessary) and processed at one or more offsite fuel preparation areas where it will be sized as necessary before being loaded onto trucks for delivery to GREC.

These federally enforceable conditions preclude the use of contaminated materials from a superfund site and provide reasonable assurance with regard to the quality of the biomass fuel used in the boiler. In addition, the

permit requires sampling of the biomass. The Department observed at the on-site truck weighing station an automated auger system is used to take a sample of the woody biomass delivered by each truck to the GREC facility. The sample is taken to a lab for analysis by a trained forester to ensure that it meets quality standards. It should be noted that it is in GREC's own interest to ensure the overall quality of the biomass received otherwise equipment warranties, such as the SCR system catalysis useful life guarantee, could become invalid.

In Appendix RR, Facility-Wide Reporting Requirements of Section VI of draft Title V permit, Specific Condition RR3 requires that the permittee report any deviations from permit requirements. This would include the use of any biomass fuels that do not meet the requirements described above. In addition, Specific Condition RR7 requires an annual statement of compliance from the permittee to include that the biomass fuels used in the boiler meets the requirements given above. These two requirements are federally enforceable and would result in a significant non-compliance issue if falsified.

The Department believes that there are sufficient conditions and reporting requirements in the draft Title V permit to ensure that the quality of the clean woody biomass burned in the BFB boiler is adequate and will not cause or contribute to environmental harm.

With regard to electrical power generation, the GREC boiler is a base load unit which means that it should be in operation over 80% of the time. The contract between the Gainesville Regional Utilities (GRU) and GREC under which the boiler operates stipulates that when the boiler is operating GRU must purchase the power. The boiler's net electrical power generation capacity is 100 megawatts.

5. **2011 Settlement Agreement not incorporated into the Draft Title V Permit:** Five people commented that the conditions agreed to in the citizens' settlement agreement (DOAH Case No. 10-7281) have not been included in the PSD permit or the draft Title V permit as requested by the Applicant. Commenters state that it is arbitrary for the FDEP to ignore the clear intent of the citizens and applicant to include these enhanced protections in the permit.

Department's Response: The requirements of the settlement agreement can be accessed at the following link:

[Link to GREC 2011 Settlement Agreement](#)

This agreement contains additional air quality commitments that are not required by federal or state law. Specifically, the agreement includes: a CEMS data and reporting requirement; allows the Alachua County Environmental Protection Department (ACEPD) to inspect the GREC facility; provides grants to ACEPD to cover the cost of the inspections; allows additional penalties for noncompliance; contains a D/F emissions limit and associated compliance stack testing requirements; and also contains a PM_{2.5} stack testing requirement. The Department has included the air quality commitments in the Title V permit (see Appendix SA).

The agreement is between the permittee (GREC) and non-Department parties, including Alachua County. The provisions of the agreement are not required by any federal or state laws, but are enforceable by the participating parties of the agreement.

6. **EPA Comments were not incorporated into the Original PSD Permit nor the Draft Title V Permit:** Four people commented that on August 16, 2010 the USEPA Region 4 sent comments on the original Air Construction Permit that to their knowledge have never been incorporated into the Permit.

Department's Response: The five EPA comments were addressed by the Department on pages 2 through 5 of the Final Determination document for the original PSD permit for the GREC facility. This Final Determination document can be found at the following link:

[GREC Original PSD Permit Final Determination](#)

7. **Continuous Emissions Monitoring and Stack Testing is Inadequate:** A total of eleven people commented on this issue. Six commenters specifically mentioned concerns about particulate matter monitoring (currently required annually) as insufficient, given the community's health concerns. Two raised concerns about the

unknown health impacts of sub-micron particulate matter, and one believes that sub-micron PM should be monitored, in case health effects are subsequently discovered in the community. Five commenters stated that the draft Title V permit should not have removed the requirement for CEMS for HCl, HF, and SO₂.

Department's Response: Specific Conditions B.10. and B.31. of the draft Title V permit require a CEMS to measure and record SO₂ emissions from the BFB boiler to demonstrate compliance with the emissions limit.

With regard to the removal of the requirement for CEMS to monitor the emissions of HCl and HF, the basis for the CEMS in the original PSD permit was reasonable assurance that the emissions of each of these pollutants was below the major source HAP threshold of 10 TPY. With the requirements of NESHAP 40 CFR 63, Subpart DDDDD now applicable to the BFB boiler, such monitoring was no longer necessary. Also, it should be noted that the applicant has requested that the original HCl and HF emission limits be retained in the draft Title V permit with compliance demonstrated by stack test. For more information on the incorporation of Subpart DDDDD into the draft Title V permit see item No. 1 above.

EPA bases the emissions standards in its NESHAP regulations on the Maximum Available Control technology (MACT) determinations. Per the discussion given in item No. 1 above, the Department believes that the NESHAP Subpart DDDDD PM/PM₁₀ emission limit in the draft Title V permit is protective of the public health and that annual stack testing is sufficient for compliance purposes. This opinion is further strengthened by the fact that a well-designed baghouse with pressure drop monitoring across each baghouse compartment and a bag leak detection system as specified by NESHAP Subpart DDDDD is used to control PM/PM₁₀/PM_{2.5} emissions from the BFB boiler. For a discussion on sub-micron PM see item No. 8 below.

8. **Emissions of PM_{2.5} are Inadequately Controlled:** Sixteen people commented that draft Title V permit does not provide sufficient controls to minimize emissions of PM_{2.5} from the BFB boiler or the biomass fuel delivery, preparation, storage and handling emission unit. These commenters also raised concerns about the unknown health impacts of sub-micron particulate matter, and most believed that sub-micron PM should be monitored, in case health effects are subsequently discovered in the community.

Department's Response: To minimize PM_{2.5} emissions, the Department generally relied on PM₁₀ emission limits as well as limits on precursor pollutants that form PM_{2.5} in ambient air (e.g., SAM, SO₂, VOC, NH₃, and NO_x).

For the GREC project, BACT determinations were conducted for PM/PM₁₀ (subsequently supplemented by a more stringent NESHAP Subpart DDDDD limit), CO, VOC and VE. In addition, enforceable emission limits were established for NO_x, SO₂, SAM, NH₃ and HCl. The Department still believes that these requirements are adequate to minimize emission of PM_{2.5} from the BFB boiler at the GREC facility. The baghouse that was installed provides superior performance and reasonable assurance that the emissions of PM_{2.5} from the BFB boiler are adequately controlled. Also, as indicated in item No. 5 above, the settlement agreement requires annual stack testing to be conducted on the BFB boiler to determine PM_{2.5} emissions.

Most of the emissions from the biomass fuel delivery, preparation, storage and handling emission unit are PM and PM₁₀ because the particles formed from sizing woody biomass along with its high-moisture content does not lend itself to emissions in the PM_{2.5} size range. Also, the precursors generally needed for PM_{2.5} formation, especially condensable PM_{2.5}, are not present. Consequently, the Department there believes there will be minimal emission of PM_{2.5} from this emission unit.

9. **The Air Dispersion Modeling of the Original PSD permit was not done correctly:** Six people commented that the air dispersion modeling done for the original PSD permit was flawed and used inappropriate protocols and did not include all emission sources.

Department's Response:

Air dispersion modeling was done for three pollutants at levels in excess of PSD significant amounts: PM/PM₁₀, CO and VOC. PM₁₀ is a criteria pollutant and is subject to national and state ambient air quality standards (AAQS), PSD increments, significant impact levels (SIL) and de minimis monitoring levels. CO is a criteria pollutant and is subject only to AAQS, SIL and de minimis monitoring levels. There are no

applicable PSD increments, AAQS, SIL or de minimis monitoring levels for VOC. Air dispersion modeling was not required for NO_x and SO₂ because of permanent and federally enforceable emissions decreases (emission caps) from the addition of pollution controls to the coal-fired boilers at the adjacent Gainesville Regional Utilities (GRU) Deerhaven Generating Station. GREC and the Deerhaven Generating Station are considered a single facility for PSD purposes. The permit instituting the emission caps at the Deerhaven Generating Station can be accessed using the below link.

[GRU Deerhaven Emission Cap Permit](#)

In Class II areas, the SIL was exceeded for PM₁₀ (annual and 24-hour) while the SIL was not exceeded for CO (annual and 8-hour). Consequently, a multi-source analysis was required to show the AAQS was not violated for PM₁₀ (annual and 24-hour). Results of this analysis showed no violation of the AAQS. In Class I areas, the SIL was not exceeded for PM₁₀ (annual and 24-hour). Finally, a multi-source PSD Class II Increment Analysis was required for PM₁₀ (annual and 24-hour). This analysis showed that the maximum calculated impact was below the allowable PSD increments. The details of the air dispersion modeling analysis can be found in the original PSD permit's Technical Evaluation and Preliminary Determination document starting at page 32 at the following link:

[GREC Original PSD Permit Technical Evaluation](#)

The modeling protocols used in the air dispersion modeling analysis along with the emission sources used in the multi-source AAQS and increment analyses were submitted to both the Department and EPA Region 4 for review and approval. No objections were made by the Department or by the EPA to these protocols and sources. In addition, the original draft PSD permit package was submitted by the Department to the EPA for their review. EPA had no comments on the air dispersion modeling analysis. Consequently, the Department believes that the air dispersion modeling analysis of the original PSD permit was done correctly.

10. **The Permit does not address Greenhouse Gas (GHG) Emissions:** Three people commented the draft Title V permit should address GHG emissions including emissions limits and reporting requirements. One commenter specifically stated that GHGs should be considered a pollutant in the permit while another is concerned that biomass power does not yield CO₂ reductions.

Department's Response: GREC was issued its original final PSD permit prior to January 2, 2011. Consequently, the facility is currently exempt from GHG permitting requirements. However, since the GREC boiler is an acid rain unit CO₂ emissions must be reported to the EPA as part of that program.

11. **Air Toxics (HAPS) were not Adequately Addressed in the Permit:** Four people commented that air toxics (HAPS) are not adequately controlled through the draft Title V permit nor was the public adequately informed of the HAP emission levels.

Department's Response: See items Nos. 1, 2 and 4 above.

12. **Allowable Excess Emissions are not Properly Addressed in the Draft Title V Permit:** Four people commented that the permit does not appear to contain any limit on PM emission during startup and shutdown, other than the Work Practice Standards identified and best operational practices. The permit should be rewritten to contain short-term emissions limits on all pollutants of concern, including PM.

Department's Response: With regard to excess emissions, the BFB boiler is subject to Rules 62-210.700(5), and 62-210.700(1), F.A.C. Rule 62-210.700(1), F.A.C. states:

(1) Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.

Rule 62-210.700(5), F.A.C. states:

(5) Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory

controls consistent with the public interest.

The Department followed Rule 62-210.700(1) with regard to excess emissions but adjusted the allowable durations of excess emissions upward during a cold startup and a shutdown as allowed by Rule 62-210.700(5). It should be noted that Rule 62.210.700(1) allows up to a total of 730 hours of excess emissions in a year, but the draft GREC Title V permit limits the BFB boiler to a total of 340 hours of excess emissions during any consecutive 12-month period. The Department does not believe it is necessary, and in the past has not required, actual emission limits during transient events like startups, shutdowns and malfunctions. However, during startups, shutdowns and malfunctions, alternative limits for opacity apply. Specifically, 20% opacity (6-minute blocks) except for one 6-minute block per hour of 27%.

13. **Using a Netting analysis to Exempt NO_x and SO₂ Emissions from PSD Permitting was Incorrect:** One commenter stated that this is not a netting situation and that GREC should have had to apply for a new source permit.

Department's Response: The Department believes that the netting analysis was correct and appropriate. For purposes of PSD, the GREC plant and the GRU Deerhaven Generating Station are considered a single facility (e.g., same 2-digit SIC code and located on adjacent properties). For additional details on the netting analysis use the link given below to access the original PSD permit's Technical Evaluation and Preliminary Determination document. The discussion of the netting analysis starts on page 6.

[GREC Original PSD Permit Technical Evaluation](#)

14. **Federal Acid Rain Program and Clean Air Interstate Rule (CAIR):** Two commenters indicated that the GREC BFB boiler should be subject to the Federal Acid Rain Program and CAIR.

Department's Response: The draft Title V permit indicates that the GREC BFB boiler is subject to both the Federal Acid Rain Program and CAIR. The Acid Rain requirements are addressed in Section IV of the draft Title V permit while the CAIR requirements are contained in Section V.

15. **Other Miscellaneous Comments:** One commenter stated that the stack height of the BFB boiler should be 275 feet instead of the 230 feet. Four people commented that the BFB boiler is an incinerator and should be treated as such. Finally one commenter submitted several articles and papers critical of biomass power generation.

Department's Response: The air dispersion modeling was based on the stack height of 230 feet.

The GREC BFB boiler does not meet the definition of an incinerator as given in state Rule 62-210.200(147), F.A.C.

(147) "Incinerator" – A combustion apparatus designed for the ignition and burning of solid, semi-solid, liquid or gaseous combustible wastes.

Clean wood biomass is considered a fuel and not a solid waste. Also a typical definition of an incinerator in federal rules (NSPS Subpart DDDD) is:

Incinerator means any furnace used in the process of combusting solid waste (as that term is defined by the Administrator in 40 CFR part 241) for the purpose of reducing the volume of the waste by removing combustible matter. Incinerator designs include single chamber and two-chamber.

40 CFR part 241 defines clean cellulosic biomass as:

Clean cellulosic biomass means those residuals that are akin to traditional cellulosic biomass, including, but not limited to: Agricultural and forest-derived biomass (e.g., green wood, forest thinnings, clean and unadulterated bark, sawdust, trim, tree harvesting residuals from logging and sawmill materials, hogged fuel, wood pellets, untreated wood pallets); urban wood (e.g., tree trimmings, stumps, and related forest-derived biomass from urban settings); corn stover and other biomass crops used specifically for the production of cellulosic biofuels (e.g., energy cane, other fast growing grasses, byproducts of ethanol natural fermentation processes); bagasse and other crop residues (e.g., peanut shells, vines, orchard trees, hulls, seeds, spent grains, cotton byproducts, corn and peanut production residues, rice milling and grain elevator operation

residues); wood collected from forest fire clearance activities, trees and clean wood found in disaster debris, clean biomass from land clearing operations, and clean construction and demolition wood. These fuels are not secondary materials or solid wastes unless discarded. Clean biomass is biomass that does not contain contaminants at concentrations not normally associated with virgin biomass materials.

Consequently, the BFB boiler also does not meet the definition of an incinerator under federal rules.

The submitted news articles and papers are general in nature and are not considered comments by the Department.

III. Conclusion.

Based upon comments received, the Department incorporated air quality commitments from GREC's settlement agreement with non-Department parties, including Alachua County, in the proposed Title V permit (see Appendix SA). The commitments from the settlement agreement are not federally enforceable, but are enforceable by the participating parties of the agreement. The proposed Title V air operation contains all applicable state and federal air quality requirements.