

# **Georgia Department of Natural Resources**

**Environmental Protection Division • Air Protection Branch**

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Judson H. Turner, Director

## **NARRATIVE**

TO: Dika Kuoh

FROM: Alaa-Eldin A. Afifi

DATE: August 25, 2015

Facility Name: **GRP Franklin Renewable Energy Facility**  
AIRS No.: 11900025  
Location: Carnesville, Georgia (Franklin County)  
Application #: 23292  
Date of Application: May 22, 2015 (updated June 25, 2015)

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### **Background Information**

GRP Franklin Renewable Energy Facility (the facility) will be located at 3465 Highway 198, Carnesville, Georgia 30521 in Franklin County (an attainment area). The proposed facility will be a 79 Megawatt (MW) power generation facility that will produce electricity for sale from clean cellulosic biomass. This permit will revoke the construction permit issued to Plant Carl under Air Quality Permit No. 4911-119-0025-E-03-0, as amended. The facility is classified as a PSD minor source per GA Rule 391-3-1-.02(7)(a)2.(iii)(I) because potential emissions are below 250 tons per year (tpy) and it is not one of the 28 named source categories under PSD.

The primary emission source at the facility will be a 920.5 MMBtu/hr fluidized bed boiler fueled with clean cellulosic biomass primarily from clean construction and demolition (C&D) wood. The boiler will be equipped with two propane-fired starter burners (124 MMBtu/hr each). The starter burners will be used during cold startup of the boiler and will be turned off when the boiler reaches the proper operating temperature. The following control equipment will be constructed and operated during all periods of boiler operation:

- Selective Catalytic Reduction (SCR): This is a post-combustion nitrogen oxides (NO<sub>x</sub>) reduction technique in which ammonia is injected into the flue gas across a catalyst bed to selectively reduce NO<sub>x</sub> to nitrogen and water. The expected NO<sub>x</sub> control efficiency of SCR is 77.7%.
- Fabric Filter (Baghouse): The purpose of this device is to control filterable particulate matter emissions that include PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions. The expected control efficiency of the baghouse is approximately 98.8%.
- Dry Sorbent Injection (DSI): If necessary it will control sulfur dioxide (SO<sub>2</sub>) and hydrogen chloride (HCl) emissions. HCl is expected to be the dominant hazardous air pollutant (HAP) emitted at the facility.

The facility will be a Title V major source because all potential criteria pollutant emissions could exceed 100 tpy. After the facility starts up, it will have 12 months to submit a Title V permit application to the Division.

### **Purpose of Application**

SIP Construction Permit Application 23292 dated May 22, 2015 was received by the Division on May 22, 2015 and amended on June 25, 2015. GRP Franklin Renewable Energy Facility plans to construct and operate a 79 Megawatt (MW) power generation facility in Carnesville, Georgia on a site that had been previously permitted for Plant Carl (under Air Quality Permit No. 4911-119-0025-E-03-0 as amended). The facility is requesting facility-wide emission limits for NO<sub>x</sub> and CO below the PSD major source threshold of 250 tpy and HAP limits below the HAP major source thresholds of 10 tpy for individual HAPs and 25 tpy for combined HAPs.

A public advisory was issued on June 10, 2015 and expired on July 10, 2015. No comments were received by the Division. The facility is required to submit a Title V application within 12 months from the date of initial startup.

### **Equipment List**

Facility emission units include a boiler, an emergency generator, and storage tanks, as indicated the in the table below. The boiler (Source Code: B001) burns clean cellulosic biomass primarily from clean construction and demolition wood. The diesel fired generator (Source Code: EG1) will provide 450-kW of emergency backup power and the diesel-fired fire water pump engine (Source Code: FP1) will provide 125 hp during emergencies as well. The storage tanks (Source Codes: AS1 and SO1) hold ash and limestone, respectively.

Emission Units		Air Pollution Control Devices	
ID No.	Description	ID No.	Description
B001	Wood biomass fired bubbling fluidized bed boiler with a heat input capacity of 920.5 MMBtu/hr	BAG1 SCR1 DSI	Baghouse Selective Catalytic Reduction System Dry Sorbent Injection (optional)
EG1	450-kW Diesel-fired emergency generator	NA	NA
FP1	125 hp Water fire pump emergency engine	NA	NA
CT1	Counter-flow mechanical draft cooling tower	DE	Drift Eliminators
AM1	10,000 gallons aqueous ammonia storage tank	NA	NA
AS1	Fly ash storage silo (approximately 7,700 ft <sup>3</sup> )	NA	NA
SO1	Sorbent storage silo (approximately 7,700 ft <sup>3</sup> )	NA	NA
SA1	Sand storage silo	NA	NA

### **Emissions Summary**

The following emissions summary is as provided in Application 23292. For detailed calculations, please refer to Application 23292.

#### **Facility-Wide Emissions** (In tons per year)

Pollutant	Potential Emissions			Actual Emissions		
	Before Mod.	After Mod.	Emissions Change	Before Mod.	After Mod.	Emissions Change
PM	0	121*	121*	0	108.9	108.9
PM <sub>10</sub>	0	187.2*	187.2*	0	168.5	168.5
PM <sub>2.5</sub>	0	187.2*	187.2*	0	168.5	168.5
NO <sub>x</sub>	0	249**	249**	0	224.1	224.1
SO <sub>2</sub>	0	118.4	118.4	0	106.5	106.5
CO	0	249**	249**	0	224.1	224.1
VOC	0	67.3	67.3	0	60.6	60.6
Max. Individual HAP***	0	< 10	< 10	0	8.1	8.1
Total HAP***	0	< 25	< 25	0	16	16
Greenhouse Gas (GHG)	0	828,021	828,021	0	0	0

\* All potential PM emissions assume a 98.8% control efficiency guaranteed by the baghouse vendor (Appendix E of Application 23292) and a maximum uptime of 97% per the facility's power purchasing agreement. Operation of the baghouse (BAG1) ensures PSD avoidance.

\*\* PSD avoidance limits for NO<sub>x</sub> and SO<sub>2</sub> of 249 tpy.

\*\*\* Hydrogen Chloride (HCl) is the dominant HAP. The facility is requesting HAP major source avoidance limits.

### **Regulatory Applicability**

The facility is located in Franklin County, which is considered an attainment area for all criteria pollutants under the National Ambient Air Quality Standards (NAAQS). It is classified as a PSD minor source because potential emissions are below 250 tpy and it is not one of the 28 named source categories under PSD. Two of the 28 source categories include:

- fossil fuel-fired boiler(s) totaling more than 250 MMBtu/hr heat input
- fossil fuel-fired steam electric plant for more than 250 MMBtu/hr heat input

The facility is not subject to either of these source categories because the fossil fuel fired components (two propane-fired starter burners rated at 124 MMBtu/hr each) represent less than 250 MMBtu/hr heat input.

The facility has requested two PSD avoidance limits (of 249 tpy) for NO<sub>x</sub> and CO to remain a PSD minor source under 40 CFR 52.21 [Cond. 2.1]. The facility has also requested HAP major source avoidance limits (10 tpy individual / 25 tpy combined) to remain an area source for HAPs [Cond. 2.2].

**Boiler B001**

Pollutant	Standard or limit	Legal Authority
PM	<b>0.03 lb/MMBtu</b>	40 CFR 60 Subpart Db 40 CFR 63 Subpart JJJJJ 40 CFR 52.21 - Avoidance
	0.10 lb/MMBtu (subsumed)	391-3-1-.02(2)(d)2.(iii)
Opacity	<b>10% (daily block average)</b>	40 CFR 63 Subpart JJJJJ
	20% except for one 6-minute period per hour of not more than 27% (subsumed)	40 CFR 60 Subpart Db 391-3-1-.02(2)(d)3.
SO <sub>2</sub>	Propane sulfur content less than 0.3% by weight Any mixture of propane and biomass expected to have SO <sub>2</sub> emission rate less than 0.32 lb/MMBtu	40 CFR 60 Subpart Db (SO <sub>2</sub> limit avoidance)
	Maximum fuel sulfur content of 3% by weight (subsumed)	391-3-1-.02(2)(g)2.
NO <sub>x</sub>	Propane limited to 1,301,000 gal/yr (far less than the fuel annual capacity factor of 10%)	40 CFR 60 Subpart Db (NO <sub>x</sub> limit avoidance)
	249 tpy (PSD avoidance limit)	40 CFR 52.21 - Avoidance
CO	249 tpy (PSD avoidance limit)	40 CFR 52.21 - Avoidance
HAPs	10 tpy (individual HAP major source avoidance limit)	HAP major source avoidance
	25 tpy (combined HAP major source avoidance limit)	

*40 CFR 60 Subpart Db (NSPS Db) – New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units* - applies to the boiler (B001) because it has a heat input capacity greater than 29 MW (or 100 MMBtu/hr) and it will be constructed after June 19, 1984. NSPS Db specifies emission standards for PM, SO<sub>2</sub>, and NO<sub>x</sub>. Boilers that burn low sulfur content fuels at low annual capacity factors are not required to meet SO<sub>2</sub> or NO<sub>x</sub> limits in NSPS Db.

Because the facility took HAP limits it is considered an area source, thus the boiler (B001) is subject to *40 CFR 63 Subpart JJJJJJ – “National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources”*. As a new biomass-fired boiler with a heat input capacity greater than 30 MMBtu/hr, it must comply with a PM emission limit specified in Subpart JJJJJJ. Because fabric filters and other dry control systems are used to comply with the PM limit, the boiler must also meet an opacity limit. The boiler (B001) has a heat input capacity greater than 10 MMBtu/hr, so it is subject to work practice standards such as minimizing startup and shutdown and conducting biennial tune-ups. The facility must conduct biennial tune-ups on Boiler B001 [*Cond. 5.4*] and submit an Initial Notification within 120 days of boiler startup and a Notification of Compliance Status within 180 days of boiler startup [*Cond. 7.15*]. An annual compliance certification report is due by March 1<sup>st</sup> each year [*Cond. 7.16*].

**Particulate Matter**

The boiler (B001) combusts over 30 percent wood (by heat input) on an annual basis and has a heat input capacity of greater than 250 MMBtu/hr, so it must comply with a PM emission limit in NSPS Db of 0.03 lb/MMBtu [40 CFR 60.43b(h)(1)] [*Cond. 2.6a.*]. This limit is identical to the one found in Table 1 (Row 3) of 40 CFR 63 Subpart JJJJJJ for new biomass-fired boilers with a heat input capacity of 30 MMBtu/hr or greater. The PM limit subsumes the 0.10 lb/MMBtu limit found in GA Rule 391-3-1-.02(2)(d)2.(iii). The facility uses a baghouse (BAG1) to comply with the PM limits and to remain a

PSD minor source. The facility plans to meet the PM limit through stack testing performed within 180 days after startup and on a triennial basis thereafter [*Cond. 6.5*].

#### *Opacity*

The boiler (B001) complies with the PM limits above using a fabric filter (BAG1) or other dry control systems, so it must meet an opacity less than or equal to 10% (daily block average) as defined in Table 3 (Row 1) of 40 CFR 63 Subpart JJJJJ [*Cond. 2.6b*]. This opacity limit subsumes the limit of 20% opacity (except for one 6-minute period per hour of no more than 27% opacity) found in NSPS Db [40 CFR 60.43b(f)] and in GA Rule 391-3-1-.02(2)(d)3. Since the boiler (B001) is subject to an opacity standard the facility is required to install, calibrate, maintain, and operate a continuous opacity monitoring system (COMS) [40 CFR 63.11224(e)] that meets the requirements of 40 CFR 63.11205(c)(1) through (3) [*Cond. 5.3*].

#### *Sulfur Dioxide*

Boilers that fire only “very low sulfur oil, gaseous fuel, a mixture of these fuels, or a mixture of these fuels with any other fuels with a potential SO<sub>2</sub> emission rate of 0.32 lb/MMBtu heat input or less” are exempt from the SO<sub>2</sub> emissions limit in NSPS Db per 40 CFR 60.42b(k)(2). The facility will use propane which has a sulfur content of 0.3% by weight or less and qualifies as a “very low sulfur” fuel exempt from SO<sub>2</sub> limits under NPSP Db. The boiler (B001) is expected to burn a portion of the propane in conjunction with clean cellulosic biomass at an SO<sub>2</sub> emission rate less than 0.32 lb/MMBtu [*Cond. 2.7*]. This sulfur content limit subsumes the 3% sulfur content limit in GA Rule 391-3-1-.02(2)(g)2. Although the facility is not subject to an SO<sub>2</sub> limit in NSPS Db, it has decided to install an SO<sub>2</sub> CERMS that will continuously measure, monitor and record SO<sub>2</sub> emission rates [*Cond. 5.2c*].

#### *Nitrogen Oxides*

The boiler (B001) is not subject to a NO<sub>x</sub> limit in NSPS Db because it complies with a “federally enforceable requirement that limits its operation to an annual capacity factor of 10% or less” for propane use. The facility will voluntarily limit its propane usage to 1,301,000 gal/yr, far below the allowable annual capacity factor of 10% (8,548,000 gal/yr). 1,301,000 gal/yr is the maximum fuel usage the propane burners can accommodate in the boiler and will be used as a propane usage limit in the permit [*Cond. 2.8*]. Propane usage will be monitored [*Cond. 5.6*] and 12-month rolling total propane usage will be included in semiannual reports [*Cond. 7.5i*]. The facility also took a PSD avoidance limit for NO<sub>x</sub> of 249 tpy [*Cond. 2.1*] that will be tracked and recorded using data from the NO<sub>x</sub> CERMS [*Cond. 5.2a*] and associated recordkeeping [*Cond. 7.12*].

#### *CISWI Rule Avoidance and categorical exemptions under Non-Hazardous Secondary Materials*

The boiler (B001) is not subject to combustion rules for Commercial and Industrial Solid Waste Incinerators (CISWI rules) because it plans to burn “clean cellulosic biomass” considered a Non-Hazardous Secondary Material (NHSM) categorically exempt from CISWI rules under 40 CFR 60 and 40 CFR 241. According to the February 7, 2013 NHSM final rule which amended the definition of “clean cellulosic biomass” in 40 CFR 241.2:

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.**

U.S. EPA states in the February 7, 2013 NHSM final rule that “in general, contaminated C&D wood that has been processed to remove contaminants, such as lead-painted wood, treated wood containing contaminants, such as arsenic and chromium, metals and other non-wood materials, prior to burning, likely meets the processing and legitimacy criteria for contaminants, and thus can be combusted as a non-waste fuel” (Preamble Section III.D.1.a. to February 7, 2013 NHSM final rule).

In a March 25, 2014 proposed amendment to the final rule, the U.S. EPA is proposing to categorically exempt C&D wood processed from C&D debris according to best management practices. These best management practices will require combustors of C&D wood to obtain written certification from C&D processing facilities that the C&D wood had been processed by trained operators in accordance with best management practices. Best management practices for the purposes of this categorical listing will include sorting and removing the following materials from the fuel feedstock: non-wood materials (e.g. polyvinyl chloride and other plastics, drywall, concrete, aggregates, dirt, and asbestos), and wood treated with creosote, pentachlorophenol, chromated copper arsenate, or other copper chromium, or arsenical preservatives. If a facility uses positive sorting they will either exclude all painted wood from the final product fuel, use X-ray fluorescence to ensure that painted wood included in the final product fuel does not contain lead-based paint, or require documentation that a building has been tested for and does not include lead-based paint before accepting demolition debris from that building. If a facility uses negative sorting they will remove fines (i.e. small-sized particles that may contain relatively high concentrations of lead and other contaminants) and either remove painted wood, use x-ray fluorescence to detect and remove lead-painted wood, or require documentation that a building has been tested for and does not include lead-based paint before accepting demolition debris from that building.

For this permit, the Division is requiring testing of hydrogen chloride (HCl), hydrogen fluoride (HF), acrolein, benzene, formaldehyde, acetaldehyde, chlorine, styrene, and manganese emissions every 36 months to make sure the work practices and controls in place are adequate.

### ***Emergency Generator EG1 and Fire Pump FP1***

The allowable visible emissions from the emergency generator (EG1) and fire pump (FP1) are 40% in accordance with Georgia Rule 391-3-1-.02(2)(b)1 [*Cond. 2.11*]. To be considered an emergency engine under GA Rule 391-3-1-.03(6)(b)11.(v)(I), both engines are limited to less than 500 hours [*Cond. 2.10*]. The engines are considered insignificant sources exempt from permitting under GA Rule 391-3-1-.03(6)(b)11.(i), however the facility has requested to include them for completeness.

For Fire Pump FP1, the allowable fuel sulfur content is 2.5 weight percent in accordance with Georgia Rule 391-3-1-.02(2)(g)2, however the facility has elected to burn diesel fuel with a maximum sulfur content of 0.05 percent by weight [*Cond. 2.12*].

*40 CFR 60 Subpart IIII (NSPS IIII) – NSPS for Stationary Compression Ignition Internal Combustion Engines* - applies to the emergency generator (EG1) because it was manufactured after April 1, 2006. NSPS IIII limits non-emergency service time (for maintenance checks and readiness testing) to 100 hours per year [*Cond. 2.15*] and requires engines to be certified to meet the standards in 40 CFR 60.4205(b) [*Cond. 7.7*]. The performance standards that apply to the emergency generator (EG1) are presented in Table 1 below:

Table 1: NSPS Subpart IIII Emission Standards For Stationary 2007 and later Model Year Diesel Engines With A Displacement Of Less Than 10 Liters Per Cylinder And Maximum Engine Power between 450 kW and 560 kW, with emission limits in terms of g/kW-hr (lb/HP-hr) [40 CFR 89.112(a)].

Pollutant →	NO <sub>x</sub> + NMHC	CO	PM
Emission Limit for EG01	4.0 (0.0066)	3.5 (0.00575)	0.20 (3.29x10 <sup>-4</sup> )

Additional requirements in 40 CFR 60 Subpart IIII include:

- Installing, configuring, operating and maintaining the engine according to manufacturer's specifications and instructions during the entire useful life of the engine [*Cond. 4.2 and 4.3*].
- Only firing the engine with diesel fuel that has a maximum sulfur content of 15 ppm (0.0015% by weight) and either a minimum cetane index of 40 or maximum aromatic content of 35 volume percent [*Cond. 2.14*]. This sulfur content limit subsumes the 2.5% sulfur content limit in GA Rule 391-3-1-.02(2)(g)2.
- Equipping the engine with a non-resettable hour meter to track the number of hours operated by type of operation (including emergency, and testing and maintenance) [*Cond. 5.5*].

The emergency generator (EG1) will be constructed after June 12, 2006, so it is considered a new stationary reciprocating internal combustion engine (RICE) subject to *40 CFR 63 Subpart ZZZZ (RICE MACT) – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*. 40 CFR 63, Subpart ZZZZ [40 CFR 63.6590(c)] states that new emergency stationary RICE located at area sources of HAPs, meet the requirements of 40 CFR 63 Subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart IIII.

Because the fire pump engine (FP1) was constructed before July 11, 2005 and was manufactured before April 1, 2006, (manufactured in 1990 per permit application) it is not subject to the requirements of 40 CFR 60 Subpart IIII. However, since the fire pump engine commenced construction prior to June 12, 2006, it is considered an existing stationary RICE located at an area source of HAP subject to 40 CFR 63, Subpart ZZZZ. Per Table 2d (Row 4) of 40 CFR 63 Subpart ZZZZ, the fire pump engine (FP1) will have to comply with the following work practice standards:

- Change oil and filter every 500 hours of operation or annually, whichever comes first
- Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary
- Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary).

**Permit Conditions**

Permit Condition 2.1 limits the NO<sub>x</sub> and CO emissions from the entire facility during any twelve consecutive month periods to less than 250 tons to avoid exceeding PSD major source threshold.

Permit Condition 2.2 limits the facility emissions of individual and combined HAPS from the entire facility during any twelve consecutive month periods to less than 10/25 tons.

Permit Condition 2.3 establishes applicability of 40 CFR 60 Subpart Db to the boiler (B001).

Permit Condition 2.4 establishes applicability of 40 CFR 63 Subpart JJJJJ to the boiler (B001).

Permit Condition 2.5 limits the fuel fired in the boiler (B001) to clean cellulosic biomass including clean construction and demolition wood and propane fuel only during startup and bed stabilization.

Permit Condition 2.6 sets PM limit of 0.03 lbs/MMBtu (from 40 CFR 60, Subpart Db and 40 CFR 63, Subpart JJJJJ) and opacity limit of 10% (from 40 CFR 63, Subpart JJJJJ) for the boiler (B001).

Permit Condition 2.7 establishes the boiler fuel characteristics needed to avoid SO<sub>2</sub> limits in 40 CFR 60, Subpart Db.

Permit Condition 2.8 limits the annual propane fuel usage for the boiler (B001) to avoid NO<sub>x</sub> limits in 40 CFR 60, Subpart Db.

Permit Condition 2.9 defines the biomass fuel that can be fired in the boiler (B001).

Permit Condition 2.10 limits the total hours of operation for the emergency generator (EG1) and the fire pump (FP1) to less than 500 hours per year.

Permit Condition 2.11 limits opacity from the emergency generator (EG1) and fire pump (FP1) to 40%.

Permit Conditions 2.12 the facility elected to burn fuel oil in the fire pump with sulfur content of no more than 0.05 percent by weight, below the GA Rule (g) standard of 2.5%.

Permit Condition 2.13 establishes applicability of 40 CFR 60 Subpart IIII to emergency generator (EG1),

Permit Condition 2.14 includes a fuel standard under 40 CFR 60 Subpart IIII.

Permit Condition 2.15 limits the accumulated time for maintenance checks and readiness testing for the emergency generator (EG1) and the fire pump (FP1) to less than 100 hours per year, per 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ.

Permit Condition 2.16 establishes applicability of 40 CFR 63 Subpart ZZZZ to generator (EG1).

Permit Condition 2.17 defines the opacity limits for the storage silos (AS1, SO1, and SA1) and material handling equipment at the facility.

Permit Condition 2.18 defines particulate matter emissions limits for the storage silos (AS1, SO1, and SA1), the cooling tower (CT1), and material handling equipment at the facility.



Permit Conditions 3.1 and 3.2 incorporate Georgia Rule (n) to minimize fugitive dust for the entire facility.

Permit Conditions 4.2 and 4.3 require the installation and operating/maintenance of the generator (EG1) according to manufacturer's specifications/instructions.

Permit Condition 4.4 requires the pollution control equipment to be in operation at all times the boiler (B001) is in operation.

Permit Condition 4.5 requires the facility to operate the dry sorbent injection system (DSI) at all times that the boiler (Source Code: B001) is in operation except during periods of startup, shutdown and establish a minimum sorbent injection rate. This condition only applies if a DSI is installed and needed to comply with the HAP limits in Condition 2.2.

Permit Condition 5.1 explains general requirements for the operation of a continuous monitoring system.

Permit Condition 5.2 requires installation of CERMS for NO<sub>x</sub>, CO, SO<sub>2</sub>, CO<sub>2</sub>, and COMS on the stack of Boiler B001.

Permit Condition 5.3 requires the facility to install, operate, certify and maintain the Continuous Opacity Monitoring System (COMS) from the boiler (B001) according to the procedures as specified in 40 CFR 63.11224(e).

Permit Condition 5.4 requires the facility to conduct a performance tune-up of the boiler (B001) biennially as specified in 40 CFR 63.11223.

Permit Condition 5.5 requires the installation of a non-resettable hour meter for the emergency generator (Source Code: EG1) and the water fire pump emergency engine (Source Code: FP1).

Permit Condition 5.6 requires the installation of a propane measuring device for boiler (B001).

Permit Condition 5.7 requires the facility maintain a 30-day rolling average sorbent injection rate at or above the minimum sorbent injection rate established per Condition 4.5

Permit Condition 5.8 requires a verification or certification that the biomass feedstock for boiler (B001) complies with the applicable requirements in Condition 2.9 and 40 CFR 241.

Permit Condition 6.2 specifies the applicable test methods to be used when testing emissions from sources at the facility.

Permit Condition 6.3 requires conducting initial performance evaluations of the continuous emissions rate monitoring systems (CERMS) and the continuous opacity monitoring system (COMS).

Permit Condition 6.4 requires conducting performance tests to determine the HCl emissions factor.

Permit Condition 6.5 requires conducting performance stack test for PM from the boiler (B001) according to 40 CFR 63, Subpart JJJJJ requirements on a triennial basis.

Permit Condition 7.3 requires the facility per 40 CFR 60.7 to provide notifications of the actual date of initial startup of the boiler (B001) and the anticipated date of performance testing, including COMS performance evaluations.

Permit Condition 7.4 requires quarterly reporting of COMS, total boiler operating time for the calendar month, type and amount of fuel burned during the reporting period.

Permit Condition 7.5 requires semiannual reporting of NO<sub>x</sub> and CO CEMS and the calculated monthly and consecutive 12-month rolling totals for NO<sub>x</sub> and CO.

Permit Condition 7.6 requires maintaining monthly records of the operation of the emergency generator (EG1) and the water fire pump (FP1).

Permit Condition 7.7 requires the facility to demonstrate compliance with 40 CFR 60, Subpart IIII emission limits for the emergency generator (EG1) by purchasing certified engine.

Permit Conditions 7.8 and 7.9 establish reporting thresholds and provide equations for determining monthly emissions for individual and combined HAP limits and for the boiler (B001).

Permit Conditions 7.10, 7.11, and 7.12 provide equations for determining daily and monthly emissions of NO<sub>x</sub> and CO respectively and to provide report demonstrating the tracking of emissions record.

Permit Condition 7.13 requires the facility to submit the results of an initial performance tests that are required per Conditions 6.4 and 6.5.

Permit Conditions 7.14 through 7.17 address recordkeeping, notifications, relative accuracy test audit, and an annual compliance certification requirement of 40 CFR 63, Subpart JJJJJ for the boiler (B001).

Permit Condition 7.18 requires the facility to keep records verifying that each shipment of propane fuel received for firing in the boiler (B001) complies with the fuel standards and requirements in Condition 2.7.

Permit Condition 8.2 requires the Permittee to pay an annual permit fee to the Division.

Permit Condition 8.3 revokes the previous construction permit issued to Plant Carl.

Permit Condition 8.4 requires the facility to submit a Title V application within 12 months from the date of initial startup of the facility.

**Toxic Impact Assessment**

Per SIP permit application number 23292, the proposed toxic emissions were analyzed for toxic impact in accordance with Georgia's "Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions". Maximum Ground Level Concentrations (MGLCs) were computed using the SCREEN3 dispersion model for the HAPs having the highest potential impact with respect to their Acceptable Ambient Concentrations (AACs). The refined model ISCST3 was used to further evaluate the 24-hr impact of chlorine. All of the predicted impacts were deemed acceptable and in compliance with the Division's air toxic impact guidelines. A revised modeling using ISCST3 was submitted on June 25, 2015 after the facility decided to reroute its new boiler emissions to baghouse BAG1. All revised predicted impacts were deemed acceptable and in compliance with the Division's air toxic impact guidelines as well.

**Summary & Recommendations**

Therefore, I recommend issuing proposed Air Quality Permit No. 4911-119-0025-E-04-0 to GRP Franklin Renewable Energy Facility for the construction and operation of a 79 Megawatt (MW) power generation facility. The public advisory was issued on June 10, 2015 and expired on July 10, 2015. No comments were received by the Division. The facility is a PSD minor source, but will be a Title V major source. Therefore, GRP Franklin Renewable Energy Facility will be required to submit a Title V Major Source Operating Permit Application within one year after startup of the biomass boiler.