

**STATEMENT OF BASIS****Page 1 of 10**BAQ Engineering Services Division
2600 Bull Street, Columbia, SC 29201
Phone: 803-898-4123 Fax: 803-898-4079

Company Name:	Orangeburg County Biomass, LLC	Permit Writer:	Jidida K. Douglas
Permit Number:	1860-0123-CA	Date:	October 22, 2009

DATE APPLICATION RECEIVED September 12, 2008; Updated application received May 13, 2009.**DATE OF LAST INSPECTION:** A new facility.**FACILITY DESCRIPTION**

Orangeburg County Biomass, LLC (OCB) is proposing to construct and operate a 35 Megawatt net capacity biomass-fired electrical power generation facility in the John Matthews Industrial Park located in Orangeburg County, South Carolina. The primary emission source at the facility will be a 525x 10⁶ BTU/hr boiler; using natural gas as a start-up fuel and a mixture of wood biomass as the primary fuel. The developers have plans to expand the site to include other synergetic alternative energy products to include biofuel production facilities that will use cellulosic materials as feedstock. This facility will provide direct power to local purchasers, as well as provide surplus power to the local power supplier via direct grid connection.

PROJECT DESCRIPTION

OCB is requesting a synthetic minor construction permit. The initial material handling operations will consist of a variety of processes to include wood chip handling, staging, sizing, and conveying. OCB will secure wood chip delivery contracts with third parties to provide the necessary wood fuel delivery. Wood chips and forestry thinning will be delivered via truck to the facility. The chips will be dumped, screened and stock piled via stacker/reclaimer, then subsequently conveyed for direct introduction into the bubbling fluidized bed boiler (BFB). Oversize material will be ground to an acceptable size. Once the BFB boiler is heated, the steam in the turbines will produce the electricity for sale.

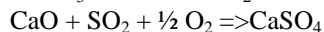
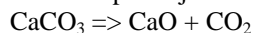
In the Bubbling Fluidized Boiler (BFB) process, combustion air and fuel pass through fluidized bed at moderate velocity, causing the volume of the air-solid mixture to increase in the chamber. Within the air-solid mixture, air bubbles begin to form, resulting in vigorous mixing of the fuel and sand bed. The air-solid mixture does not occupy the entire combustion chamber; however, the temperature is uniform throughout the bed, maximizing combustion efficiency, and depending on the fuel blend, sulfur capture by way of lime injection. Additionally, the bubbling sand and the associated moderate velocity provide a scouring effect of the char on the outer diameter of the fuel particle, which serves to provide exposure to the underlying combustible material for a high degree of combustion.

The bubbling fluidized bed provides very efficient combustion. Combustion by-products are further controlled by flue gas recirculation, flue gas sorbent injection processes, particulate capture baghouse, and finally a Selective Catalytic Reduction (SCR) system for Oxides of Nitrogen (NO_x).

The BFB boiler for the OCB project will be equipped with inherent combustion technologies and various add-on emission control technologies to reduce emissions of NO_x, SO₂, CO and PM/PM₁₀, and HCl in accordance with pollution control requirements:


Limestone Injection & Dry Sorbent (Calcium Carbonate) Injection

The OCB project will be equipped with variable rate limestone injection capabilities into the fluidized bed as an initial means of controlling SO₂ and acid gas emissions. Limestone reacts with the SO₂ and acid gas formed during combustion and forms of solid sulfate, which can be discarded as a dry solid. For the BFB boiler, limestone injection is estimated to remove up to 90% of SO₂ emissions when operating at the maximum fuel sulfur loading to the boiler. Also, the facility will install and operate a "dry sorbent (sodium) injection system" because there is a strong evidence that it provides a more cost effective alternative to traditional spray dry or wet scrubbing systems for the removal of SO₂ and HCl. The process requires no slurry equipment or reactor vessel since the sorbent is milled and stored on-site then injected directly into the flue gas duct to allow instantaneous reactions with the acid gases. The spent sorbent that has completed the needed flue gas chemical reactions is then effectively collected dry in the baghouse. The OCB project will be equipped with variable rate limestone injection capabilities into the fluidized bed as an initial means of controlling SO₂ and acid gas emissions. Limestone reacts with the SO₂ and acid gas formed during combustion and forms a solid sulfate, which can be discarded as a dry solid. The following chemical equations describe the reactions occurring in the fluidized bed upon injection of the limestone:



For the proposed BFB boiler, limestone injection is estimated to remove up to 90% of SO₂ emissions when operating at the maximum fuel sulfur loading (0.025 – 0.30 lb/MMBTU) to the boiler.

The primary point of introduction will be the downstream of the inlet to the hot baghouse. This will provide necessary residence time for the chemical reaction to occur. This multi-staged lime injection strategy will support an 80% removal of SO₂ and a 90% removal efficiency of HCl. The removal efficiencies previously stated represent the worse-case conditions of sulfur and chlorine

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content in the fuel stream.

Limestone and Sorbent are the same material (CaCO₃). CaCO₃ is initially injected into the boiler bed mass for purposes of controlling SO₂ and acid gas (i.e. HCl). The same material can be injected post combustion and prior to the baghouse for further control HCl. The sorbent is injected into the air stream, where it reacts with the HCl. The sorbent also forms a filter cake on the baghouse wall which provides additional reaction and neutralization of the HCl.

Baghouse System

A baghouse system will be located at the outlet of the BFB boiler back-pass air heater system and consist of a series of baghouse modules for the removal of particulate mater from the flue gas stream. Baghouses are commonly used as a particular matter (PM) removal device with common control efficiencies of 99.9% for PM/PM₁₀ and 99% for PM_{2.5}.

Selective Catalytic Reduction (SCR)

The formation of the NO_x is determined by the interaction of chemical and physical processes occurring during combustion within the BFB boiler. There are two principal forms of NO_x-“thermal” NO_x and “fuel” NO_x. Thermal NO_x formation is the result of oxidation of atmospheric nitrogen in the combustion zone. The major factors influencing thermal NO_x formation are temperature, concentrations of nitrogen and oxygen in the inlet air and residence time within the combustion zone. Fuel NO_x is formed by the oxidation of fuel-bound nitrogen. NO_x formation can be controlled by adjusting the combustion process and /or installing post-combustion controls. SCR is a supplemental NO_x control technology that is placed in the flue gas stream. SCR involves the injection of NH₃ into the exhaust gas stream upstream of a catalyst bed. On the catalyst surface, NH₃ reacts with NO_x contained within the flue gas stream to form nitrogen gas and water. The catalyst’s active includes a metal to promote the NO_x reduction process. The geometric configuration of the catalyst body is designed for maximum surface area and minimum obstruction of the flue gas flow path in order to achieve maximum conversion efficiency of NO_x to N₂. Aqueous ammonia (19% by weight) is drawn from a storage tank, vaporized, and injected into the flue gas stream ahead of the catalyst bed.

OCB will install a Continuous Emission Monitoring System (CEMs) for SO₂, NO_x, CO, flue gas O₂ content and a Continuous Opacity Monitoring system (COMs) for opacity.

During periods of warm-up/start-up, the unit will fire natural gas in the four starter-up burners. The start-up burners are each rated at 40x10⁶ BTU/hr for total heat input capacity of 160x10⁶ BTU/hr. The six bed lances have a total heat input capacity of 14.5x10⁶ BTU/hr. The four start-up burners and six bed lances are limited to natural gas firing only. The boiler is not subject to NSPS 40 CFR 60, Subpart Da because the unit combusts less than 73 megawatts (MWe) (250 million British thermal units per hour (MMBtu/hr)) heat input of fossil fuel (either alone or in combination with any other fuel). Also, the facility is taking synthetic minor limits to stay below the 250 TPY PSD major source thresholds and 10/25 for HAPs emissions.

On August 03, 2009, the facility submitted a letter to the Bureau about PSD applicability issues regarding whether or not if they are subject to 40 CFR 52.21(b)(1)(i)(a)- a 100 TPY limit for criteria pollutants because of a fossil fuel-fired steam electric plants more than 250 x 10⁶ BTU/Hr heat input. During that time, the Bureau asked EPA for assistance for this matter. On August 26, 2009, EPA responded by via email to the Bureau stating that the facility will subject to the 250 TPY PSD major source threshold.

SOURCE TEST REQUIREMENTS

SO₂, NO_x, CO, flue gas O₂ content and opacity emission rates are monitored by CEMS; therefore, no source testing will be required. VOC potential emissions are less than 250 TPY; therefore, no source testing will be required. SO₂ potential emissions are less than 250 TPY. To demonstrate compliance with Standard 1, an initial fuel analysis will be conducted. No additional analysis will be required, unless the clean, untreated wood becomes inconsistent in composition or is received from another supplier. PM source testing requirements are conducted initially and every two years. HCl initial stack testing is conducted within 180 days of start up and every two years there after. The uncontrolled total HAPs sans HCl is 11.96 TPY and the controlled total HAPs including HCl is less than 25 TPY, therefore HAP source testing will be required on HCl only. The facility will conduct performance tests to demonstrate that the controlled HCl emission rate will be less than or equal to 1.00 lb/hr, which equates to 4.38 tons/yr HCl.

SPECIAL CONDITIONS, MONITORING, LIMITS

A synthetic minor permit to limit potential NO_x, CO, and PM emissions below the 250 TPY and to limit potential HCl emissions below the 10/25 TPY HAP. CEMS will be used to continuously monitor CO, NO_x, SO₂, and opacity emissions. Controlled annual emissions are 8520



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hours per year in order to stay below limits of 10/25 TPY and 250 TPY for HCl & CO, respectively.

The CO limitation of 250 TPY is effectively an annual limitation; the facility is proposing a limit on operation of the boiler to 355 day/yr. Based on the boiler manufactures guaranteed emission factor of 0.11 lb/10⁶ BTU and the facility's proposed Continuous Emission Monitoring (CEM) systems, the CO emission limitation will be achieved by a combination of feedstock and hours of operation limitation.

The facility proposes the following specific limitations on natural gas consumption: Natural gas (or any other fossil fuel) total start up burner firing capability shall be limited by burner manufacturer's nameplate to design to 247x10⁶ BTU/hr or less. The annual natural gas consumption shall be limited to 10% or less of the facility's total fuel capacity (525x10⁶ BTU/hr *24hr/day*355day/yr*0.10= 447, 300 x10⁶ BTU =438,529,411ft³. The natural gas consumption shall be monitored, recorded, and reported (semiannually) and twelve-month rolling sum to verify that consumption is less than 10% of the facility's total fuel capacity.

PUBLIC NOTICE This facility is requesting a synthetic minor construction permit and it will be public noticed.

EMISSIONS

UNCONTROLLED POTENTIAL EMISSIONS (PROJECT ONLY)				
ID	Pollutant	lb/hr	TPY	Method for Estimating Emissions
STK1 Boiler*	PM	294.00	1287.72	AP-42 Chapter 1.6
	PM ₁₀	262.50	1149.75	AP-42 Chapter 1.6
	PM _{2.5}	225.8	989.004	AP-42 Chapter 1.6
	NO _x	115.50	505.89	AP-42 Chapter 1.6
	SO ₂	13.13	57.51	AP-42 Chapter 1.6
	CO ¹	57.75	252.95	AP-42 Chapter 1.6
	VOC	8.93	39.11	AP-42 Chapter 1.6
	HCl	9.98	43.71	AP-42 Chapter 1.6
	Lead	7.84x10 ⁻⁰⁵	3.44x10 ⁻⁰⁴	AP-42 Chapter 1.4, Table 1.4-2
	Total HAPs (Sans HCl)	2.73	11.96	AP-42 Chapter 1.6
	Total HAPs (w/HCl)	12.71	55.67	AP-42 Chapter 1.6
CHIP1*	PM	0.23	1.0074	NCASI Worksheet "Particulate Emissions from Miscellaneous Sources Including Saw and Sanders
	PM ₁₀	0.058	0.254	"Estimating Emissions From Generation & Combustion of Waste Wood (July 1998, NC DENR)
	PM _{2.5}	0.058	0.254	"Estimating Emissions From Generation & Combustion of Waste Wood (July 1998, NC DENR)
	VOC	0.50	2.19	NCASI Technical Bulletin No. 700, October 1995
CONTRA N 1, 2, 3*	PM (Each)	0.52	2.28	AP-42 Chapter 11.19.2-2, 0.003 lb PM/ton * three transfer points
	PM ₁₀ (Each)	0.06	2.28	AP-42 Chapter 11.19.2-2, 0.003 lb PM/ton * three transfer points
	PM _{2.5} (Each)	0.06	2.28	AP-42 Chapter 11.19.2-2, 0.003 lb PM/ton * three transfer points

* Based on Continuous Operation (8760 hrs/yr) with no controls.

Note: The total amount of the HAPs are listed in the Total HAPs list. Please see the construction permit application for all of the listed HAPs.



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CONTROLLED POTENTIAL EMISSIONS (PROJECT ONLY)

ID	Pollutant	lb/hr	TPY	Method for Estimating Emissions
STK1 Boiler*	PM ¹	0.29	1.27	Controlled by a baghouse. The control efficiency is ~99.9% & AP-42, Chapter 1, Table 1.6-1
	PM ₁₀ ¹	0.2625	1.15	Controlled by a baghouse. The control efficiency is ~99.9% & AP-42, Chapter 1, Table 1.6-1
	PM _{2.5} ¹	2.2575	9.89	Controlled by a baghouse. The control efficiency is ~99.9% & AP-42, Chapter 1, Table 1.6-1
	NO _x	11.55	50.59	Selective Catalytic Reduction (SCR) and . The control efficiency is 90%
	SO ₂ ²	2.63	11.52	Limestone and Dry Sorbent Injections. The control efficiency is 80%.
	CO ³	57.75	245.96	AE&E-Von Roll – Vendor Guarantee and limiting hours to 8520 hrs/yr
	HCL	1.00	4.38	Controlled by Dry Sorbent Injection. The control efficiency is 90%.

¹ Control Device/Emission Reduction Efficiency (FGR, Lime Injection, Baghouse, SCR, dry sorbent injection) as follows: PM/PM₁₀ = 99.9%, PM_{2.5} = 99%, NO_x = 90%, SO_x = 80%, HCL = 90%.

² The Primary feedstock, southern yellow pine, has no significant sulfur content.

* Based on 8520 hrs/yr (355 days) of operation per year with controls.

³ The facility is proposing to limit the annual operation of the boiler to 355 day/yr, in order to and the facility's proposed continuous emission monitoring (CEM) systems.

0.11 lb CO/10⁶ BTU X 525x10⁶ BTU/Hr X 24 hr/day X 355 day/yr X 1 ton/2,000 lb = 245.96 TPY.

FACILITY WIDE EMISSIONS

Pollutant	Uncontrolled Emissions	Controlled Emissions
	TPY	TPY
PM	1295.57	2.2774
PM ₁₀	1157.73	1.15
PM _{2.5}	989.004	9.89
NO _x	505.89	50.59
SO ₂	57.51	11.52
CO	252.95	245.96
Lead	3.44x10 ⁻⁰⁴	N/A
VOC	41.30	2.19
Total HAPs (Sans HCL)	11.96	N/A
Total HAPs (w/HCL)	55.67	N/A
HCL	43.71	4.38

Note that no H₂SO₄ emission factor for wood combustion is available.



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PROJECT REGULATORY APPLICABILITY REVIEW

Regulation	Applicable		Comments
	Yes	No	
South Carolina Regulation 61-62.1 through 62.99: Air Pollution Regulations (PROJECT ONLY)			
Section II(E): Synthetic Minor	X		This facility has agreed to federally enforceable operating limitations to limit its PTE to less than 250 tons of PM, PM ₁₀ , PM _{2.5} , NO _x , & CO emissions per year and less than 10/25 tons per year for HAP emissions. The 12 month rolling sum shall neither exceed 250 tons of PM, PM ₁₀ , PM _{2.5} , NO _x , & CO and shall not exceed 10/25 TPY for HAP emissions.
Section II(G): Conditional Major		X	The facility's PTE exceeds major source thresholds for several of the criteria pollutants such as, PM, PM ₁₀ , PM _{2.5} , NO _x , & CO, as well as single and total HAPS, however the facility has accepted to take federally enforceable limits to avoid PSD and become a Title V source.
Standard 1: Fuel Burning Operations	X		<p>The boiler has PM, SO₂, and opacity limits. In order to demonstrate compliance, with the 20% opacity limit, the facility will install a Continuous Opacity Monitoring system (COMs).</p> <p>To demonstrate compliance with the 0.6 lb/10⁶ BTU heat input of PM emissions, a baghouse will be installed. The boiler is subject to source testing requirements for PM initially and every 2 years thereafter.</p> <p>To demonstrate compliance with 3.5 lb/10⁶ BTU of SO₂ emissions, an initial fuel analysis will be conducted. Also, the facility will install a Continuous Emission Monitoring (CEMs) and install Limestone and Dry Sorbent Injections as controls. No additional analysis will be required, unless the clean, untreated wood becomes inconsistent in composition or is received from another supplier.</p>
Standard 2: Ambient Air Quality Standards	X		This facility has demonstrated compliance through modeling; see modeling summary dated September 16, 2009.
Standard 3: Waste Combustion/Reduction (state only)		X	The fuel used at the facility will be clean, untreated wood waste; since these fuels satisfy the definition of virgin fuel; this facility is not subject to this standard. The facility has confirmed that they will not be taking any yard waste (which could be considered MSW) or C&D waste. Note that yard waste does not include clean wood collected at residences which is also exempt from the definition of municipal solid waste as per Standard 3.
Standard 3.1: HMI Waste Incinerators		X	The source does not combust hospital, medical, or infectious waste; therefore the source is not subject.
Standard 4: Emissions from Process Industries	X		The whole log chipping (CHIP1) emission source, including any fugitives, in this process are subject to 20% opacity limits under this standard. The PM limit for the CHIP1 is 46.02 lbs/hr correlating to a process weight rate of 58.33 tons/hr for the whole log chipping source. The 58.33 TPH number is the maximum amount of through put of the chipper.
Standard 5: Volatile Organic Compounds		X	Facility started operation after 1979; hence the standard does not apply.



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PROJECT REGULATORY APPLICABILITY REVIEW

Regulation	Applicable		Comments
	Yes	No	
Standard 5.1: BACT/LAER For VOC (state only)		X	The facility does not have VOC emissions near the 100 TPY thresholds; therefore the standard does not apply.
Standard 5.2: Control of Oxides of Nitrogen	X		<p>There are two different limits that apply to the boiler:</p> <ol style="list-style-type: none"> 1. The limit for this standard is 0.20 lb/ 10⁶BTU for Wood Residue Boilers. This limit applies at all times. 2. For the boiler configuration using multiple fuels (natural gas and wood), the calculated limit will be 0.147 lb/ 10⁶BTU. <p>525x10⁶ BTU/hr of wood + 247x10⁶ BTU/hr of natural gas = 772x10⁶ BTU/hr total</p> $E_n = [(0.036 \text{ lb}/10^6 \text{ BTU} * 247 \times 10^6 \text{ BTU/hr}) + (0.2 \text{ lb}/10^6 \text{ BTU} * 525 \times 10^6 \text{ BTU/hr})] / (772 \times 10^6 \text{ BTU/hr})$ $= [113.892 \text{ NO}_x \text{ lb/hr}] / (772 \times 10^6 \text{ BTU/hr}) = 0.147 \text{ lb}/10^6 \text{ BTU}$ <p>This limit only applies when burning natural gas and wood.</p> <p>The lower limit of 0.07 lb NO_x/MMBTU is applicable to fluidized bed boilers using Selective Non Catalytic Reduction (SNCR) control technologies which involve direct aqueous ammonia or urea injection. The facility is using a Selective Catalytic Reduction (SCR) system which employs bed in conjunction with ammonia injection for greater NO_x reduction.</p>
Standard 7: Prevention of Significant Deterioration		X	<p>The facility will operate under federally enforceable conditions to restrict annual emissions from all sources at the site below major source thresholds. The facility will demonstrate compliance by limiting PM, NO_x, and CO potential emissions to less than 250 TPY.</p> <p>In order to demonstrate compliance for PM/PM₁₀, the facility will be installing a baghouse.</p> <p>In order to demonstrate compliance for NO_x, the facility will be installing SCR. Also, the facility will be installing and operating a NO_x CEMS.</p> <p>No emission controls has been proposed for CO. In order to demonstrate compliance with the less than 250 TPY limit, the facility has proposed to limit the operation of the boiler to 355 days/yr.. For CO, the facility will also be installing and operating a CEMS.</p> <p>Since the potential emissions for SO₂ and VOCs are less than 250 TPY, no synthetic minor limit will be established for these pollutants.</p>
Standard 7(c): Ambient Air Increments	X		This facility has demonstrated compliance through modeling for the PSD Class II increments for Orangeburg County; see modeling summary dated September 16, 2009.



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Regulation	Applicable		Comments
	Yes	No	
Standard 7.1: Standards for Non Attainment Areas		X	This facility is located in Orangeburg county therefore it is included in the Attainment Area.
Standard 8: Toxic Air Pollutants (state only)	X		This facility has demonstrated compliance through modeling for all TAPs, see modeling summary dated September 16, 2009.
Regulation 61-62.6: Control of Fugitive Particulate Matter	X		Emission of fugitive particulate matter shall be controlled in such a manner and to the degree that it does not create an undesirable level of air pollution.
Regulation 61-62.60: SC Designated Facility Plan and NSPS	X		<p>Subpart Db: This facility is subject to Subparts A-General Provisions and Db- Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. The facility is subject to 20% opacity and 0.03 lb/10⁶ BTU PM limit. To demonstrate compliance, with the 20% opacity limit, the facility will install, calibrate, maintain, and operate a COMS.</p> <p>To demonstrate compliance with the 0.03 lb/10⁶ BTU PM limit, the facility will be installing a baghouse. The facility will be required to conduct an initial NSPS performance test for PM and opacity within 60 days after achieving the maximum production rate, but no later than 180 days after initial start-up of the facility.</p> <p>The facility would not be subject to NOx emission limits because the annual capacity factor for natural gas is 10%, therefore the boiler will be exempt from the NOx limitation per 40 CFR 60.44b(d)..</p> <p>The facility calculated the SO₂ emissions using AP-42, Chapter 1.6, Table 1.6-2, which uses an emission factor of 0.025 lb/10⁶ BTU. Per 40 CFR 60.42b(k)(2), the boiler is exempt from SO₂ requirements provided the emission factor is below 0.32 lb/10⁶ BTU.</p> <p>Opacity emissions should submit initial performance test and performance evaluation of CEMS to Source evaluation. Also, opacity emissions shall be recorded with records maintained on site.</p> <p>Subpart CCCC: The facility is considered an exempt unit as per 60.2020(e), since it meets the definition of a Small Power Production facility due to it generating less than 80 MW of electricity. The facility notified the Department on October 02, 2009.</p>
Regulation 61-62.61: NESHAP		X	This process does not emit the pollutants subject to this standard (asbestos, benzene, beryllium, coke oven emissions, arsenic, mercury, radio nuclide, radon, or vinyl chloride).



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Regulation	Applicable		Comments
	Yes	No	
Regulation 61-62.63: NESHAP For Source Categories	X		The facility is taking federally enforceable emission limitations to stay below the 10/25 TPY for HAPs. HCl is the largest emitted HAP at ~44 TPY and the total HAPs sans HCl is ~12 TPY To demonstrate compliance with a less than 10/25 TPY HCl limit, the facility will be controlling HCl emissions with the injection of dry sorbent into flue gas stream. The control efficiency for the dry sorbent is 90% for the boiler configuration.
Regulation 61-62.68: Chemical Accident Prevention		X	The process does not call for the storage or use of chemicals subject to 112(r) above the threshold quantities. The facility will store the maximum concentration of 19% which is less than the 20% threshold; therefore, this standard is not subject.
Regulation 61-62.70: Title V	X		The facility's PTE exceeds major source thresholds for PM, PM ₁₀ , NO _x , CO, single HAP and total HAPs and as such the facility will be subject to Title V. The facility will be required to submit a TV application within 12-months of the start of operation.
Regulation 61-62.72: Acid Rain	X		The proposed biomass boiler meets the definition of a Fossil fuel fired combustion device. The facility will produce electricity for sale. The unit will not cogenerate heat with electricity. Therefore, meets the definition of an affected unit and is subject to the Acid Rain Program. The source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. All emissions monitoring information, in accordance with part 75; providing a 3-year period for recordkeeping.
Regulation 61-62.96: Nitrogen Oxides (NO _x) Budget Trading Program	X		The boiler is subject to the NO _x Budget Trading Program because the unit is a fossil fuel-fired boiler. The boiler is using natural gas as their start-up fuel. Natural gas is considered fossil fuel. Also, the facility is producing more than 25 MW of electricity for sale.
Regulation 61-62.99: Nitrogen Oxides (NO _x) Budget Program Requirements for Stationary Sources Not In the Trading Program		X	This source is not a kiln that has NO _x emissions greater than 1 ton per day.
Federal Regulations (PROJECT ONLY)			



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	Yes	No	
NSPS (Part 60) Subpart(s)	X		<p>Subpart Db: This facility is subject to Subparts A-General Provisions and Db- Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. The facility is subject to 20% opacity and 0.03 lb/10⁶ BTU PM limit. To demonstrate compliance, with the 20% opacity limit, the facility will install, calibrate, maintain, and operate a COMS.</p> <p>To demonstrate compliance with the 0.03 lb/10⁶ BTU PM limit, the facility will be installing a baghouse. The facility will be required to conduct an initial NSPS performance test for PM and opacity within 60 days after achieving the maximum production rate, but no later than 180 days after initial start-up of the facility.</p> <p>The facility would not be subject to NOx emission limits because the annual capacity factor for natural gas is 10%, therefore the boiler will be exempt from the NOx limitation per 40 CFR 60.44b(d)..</p> <p>The facility calculated the SO₂ emissions using AP-42, Chapter 1.6, Table 1.6-2, which uses an emission factor of 0.025 lb/10⁶ BTU. Per 40 CFR 60.42b(k)(2), the boiler is exempt from SO₂ requirements provided the emission factor is below 0.32 lb/10⁶ BTU.</p> <p>Opacity emissions should submit initial performance test and performance evaluation of CEMS to Source evaluation. Also, opacity emissions shall record and maintain records on site.</p> <p>Subpart CCCC: The facility is considered an exempt unit as per 60.2020(e), since it meets the definition of a Small Power Production facility due to it generating less than 80 MW of electricity. The facility notified the Department on October 02, 2009.</p>
NESHAP (Part 61) Subpart(s)		X	This process does not emit the pollutants subject to this standard (asbestos, benzene, beryllium, coke oven emissions, arsenic, mercury, radio nuclide, radon, or vinyl chloride).
MACT (Part 63) Subpart(s)		X	The facility is taking federally enforceable emission limitations to stay below the 10/25 TPY for HAPs. HCl is the largest emitted HAP at ~44 TPY and the total HAPs sans HCl is ~12 TPY To demonstrate compliance with a less than 10/25 TPY HCl limit, the facility will be controlling HCl emissions with the injection of dry sorbent into flue gas stream. The control efficiency for the dry sorbent is 90 % for the boiler configuration.
Area Source Standards (Part 63) Subpart(s)		X	This facility is not subject to any of the new area sources at this time. The facility does not have any Internal Combustion Engine (ICEs) for the facility.



STATEMENT OF BASIS

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BAQ Engineering Services Division
 2600 Bull Street, Columbia, SC 29201
 Phone: 803-898-4123 Fax: 803-898-4079

Company Name:	Orangeburg County Biomass, LLC	Permit Writer:	Jidida K. Douglas
Permit Number:	1860-0123-CA	Date:	October 22, 2009

PROJECT REGULATORY APPLICABILITY REVIEW

Regulation	Applicable		Comments
	Yes	No	
Compliance Assurance Monitoring (CAM) (Part 64)		X	The unit does not have potential pre-control device emissions, and as such it is not subject to this regulation at this time. The facility will be subject to this regulation for NOx and PM at the Title V renewal.
Clean Air Interstate Rule (CAIR) (Part 96)	X		The boiler is subject to CAIR, 40 CFR Part 75, subpart H, because the unit is a fossil fuel-fired boiler. The boiler is using natural gas as their start-up fuel. Natural gas is considered fossil fuel. Also, the facility is producing more than 25 MW of electricity for sale.

SUMMARY AND CONCLUSIONS

It has been determined that this source, if operated in accordance with the submitted application, will meet all applicable requirements and emission standards.

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