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C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

OFFICE OF ENVIRONMENTAL QUALITY CONTROL
BUREAU OF AIR QUALITY
NSPS (40 CFR 60) AND NESHAP (40 CFR 63) SYNTHETIC MINOR CONSTRUCTION PERMIT

United States Department of Energy
Washington Savannah River Company, LLC - Savannah River Site
Environmental Services Section
Building 735-B
Aiken, SC 29808-0001

Permission is hereby granted to install one 40 x 10^6 BTU/hr solid fuel fired hybrid boiler (784-7A-BOMASS) to replace the one of the two existing 71.7 x 10^6 BTU/hr coal fired boilers (TV EU ID A-006 & A-007). Particulate matter emissions from the boiler will be controlled by an electrostatic precipitator. The new boiler will be subject to 40CFR60 - New Source Performance Standards, Subparts A (General Provisions) and Dc (Standards Of Performance For Small Industrial-Commercial-Institutional Steam Generating Units) and 40CFR63 - National Emission Standards For Hazardous Air Pollutants For Source Categories (NESHAP/MACT) Subparts A (General Provisions) and DDDDD (National Emission Standards For Hazardous Air Pollutants For Industrial, Commercial, And Institutional Boilers And Process Heaters).

NOTWITHSTANDING ANY OF THE CONDITIONS LISTED BELOW, NO APPLICABLE LAW, REGULATION, OR STANDARD MAY BE VIOLATED.

CONDITIONS

1. All official correspondence, plans, permit application forms, and written statements are an integral part of this permit.

2. **THE DIRECTOR OF THE ENGINEERING SERVICES DIVISION MUST BE NOTIFIED IN WRITING OF THE DATE CONSTRUCTION BEGAN POSTMARKED NO LATER THAN 30 DAYS AFTER SUCH DATE, AND THE ACTUAL DATE OF STARTUP POSTMARKED WITHIN 15 DAYS AFTER SUCH DATE OF EACH PERMITTED FACILITY.**

3. This construction permit shall expire one year from date issued. This permit may be extended one year upon approval by the Bureau following the written request from the permittee. This request must be made prior to the permit expiration.

4. An expired construction permit may be reactivated within one year of the expiration only upon approval by the Bureau following the written request of the permittee. This request shall address all laws, regulations, and standards applicable at the time of request for reactivation.

PERMIT NUMBER: 0080-0041a-CG
DATE OF ISSUE: April 27, 2007
FACILITY SIC/NAICS CODES: 4961/221330

This is pursuant to the provisions of Section 48-1-110, 1976 *Code of Laws of South Carolina*, as amended, and the *South Carolina Air Quality Control Regulation 61-62.1*, Section II and the *Code of Federal Regulations*, Title 40, Parts 60 (Subpart A) and 63 (Subpart A).

I. STANDARD CONDITIONS

A. This permit expressly incorporates all the provisions of *South Carolina Department of Health and Environmental Control Regulation 61-62.1*, Section II, Paragraph C and the *Code of Federal Regulations*, Title 40, Parts 60 (Subpart A), and 63 (Subpart A).

II. SPECIAL CONDITIONS

A. EMISSION LIMITATIONS

Air pollutant emissions shall not exceed the following:

ID	Pollutant/ Standard	Limit	Reference Method	Regulation	State Only
1 a-CG (Biomass Boiler)	Opacity	20 %	9	SC Regulation 61-62.5 Standard 1, Section I.B	No
2 a-CG (Biomass Boiler)	PM	0.6 lbs/million Btu	5, 5B or 17	SC Regulation 61-62.5 Standard 1, Section II.A	No
3 a-CG (Biomass Boiler)	SO_2	3.5 lbs/million Btu	6 or 6C	SC Regulation 61-62.5 Standard 1, Section III.C.2	No
4 a-CG (Biomass Boiler)	NO_x	0.33 lb/mmBTU	7 or 7E	SC Regulation 61-62.5, Standard No 5.2, Section III	No
5 a-CG (Biomass Boiler)	Opacity	20 %	9	40 CFR 60 Subpart Dc	No
6 a-CG (Biomass Boiler)	PM	0.030 lb/million Btu	5, 5B or 17	40 CFR 60 Subpart Dc	No
7 a-CF + a-CG (Biomass + Oil Boiler)	PM	< 25 TPY*	5	SC Regulation 61-62.1 Section II.H	No
8 a-CF + a-CG (Biomass + Oil Boiler)	PM_{10}	< 15 TPY*	5	SC Regulation 61-62.1 Section II.H	No
9 a-CF + a-CG (Biomass + Oil Boiler)	SO_2	< 40 TPY*	6 or 6c	SC Regulation 61-62.1 Section II.H	No
10 a-CF + a-CG (Biomass + Oil Boiler)	NO_x	< 40 TPY*	7 or 7e	SC Regulation 61-62.1 Section II.H	No
11 a-CF + a-CG (Biomass + Oil Boiler)	CO	< 100 TPY*	10	SC Regulation 61-62.1 Section II.H	No

* Twelve Month Rolling Sum

The emission limitations listed for each emission unit are based on operation at permitted capacity. Operation at less than permitted capacity must meet emission limits specified in the applicable regulations based on that operating rate. All test methods must be the most recent revisions that are published in the *Code of Federal Regulations*, in accordance with the requirements of SC Regulation 61-62.1, Section IV, Source Test.

B. CONTINUOUS MONITORING REQUIREMENTS

ID	Pollutant	Averaging Time
CG	Opacity	6-Minutes

C. SOURCE TEST SCHEDULE

ID	Pollutant	Frequency	Method
CG	PM (Standard No.1)	Initial and Biennial	5, 5B, 17
CG	PM (40 CFR 60 Subpart Dc)	Initial	5, 5B, 17
CG	NOx	Initial	7 or 7E

D. ADDITIONAL CONDITIONS

Condition Number	Conditions
1.	(FACILITY)The permittee shall pay fees in accordance with SC Regulation 61-30, SC Environmental Protection Fees.
2.	(FACILITY) In accordance with SC Regulation 61-62.1 Section II(C)(3), for all sources not required to have continuous emissions monitors, in the event of any malfunction of air pollution control equipment or system, process upset or other equipment failure which results in discharges of air contaminants lasting for one hour or more and which are greater than those discharges described for normal operation in the permit application shall be reported to the local Environmental Quality Control (EQC) Regional office within twenty-four (24) hours after the beginning of the occurrence. The permittee shall also submit a written report within thirty (30) days of the occurrence. This report shall be submitted to the Manager of the Technical Management Section, Bureau of Air Quality (BAQ). The report shall contain as a minimum, the following: the identity of the emission unit and associated equipment where excess emissions occurred, the magnitude of excess emissions, the time and duration of excess emissions, the steps taken to remedy the malfunction and to prevent a recurrence, documentation that control equipment and processes were at all times maintained and operated, to the maximum extent practicable, in a manner that was consistent with good practice for minimizing emissions. Such a report shall in no way serve to excuse, otherwise justify, or in any manner affect any potential liability or enforcement action resulting from the occurrence.

Condition Number	Conditions
3.	(FACILITY) Air dispersion modeling (or other method) has demonstrated that this facility's operation will not interfere with the attainment and maintenance of any state or federal ambient air standard. Any changes in the parameters used in the air dispersion modeling may require a review by the facility to determine continuing compliance with these standards. These potential changes include any decrease in stack height, decrease in stack velocity, increase in stack diameter, decrease in stack exit temperature, increase in building height or building additions, increase in emission rates, decrease in distance between stack and property line, changes in vertical stack orientation, and installation of a rain cap that impedes vertical flow. Parameters that are not required in the determination will not invalidate the demonstration if they are modified. The emission rates used in the determination are listed in Attachment A of this permit. Higher emission rates may be administratively incorporated into Attachment A of this permit provided a demonstration using these higher emission rates shows the attainment and maintenance of any state or federal ambient air quality standard or with any other applicable requirement. Variations from the input parameters in the demonstration shall not constitute a violation unless the maximum allowable ambient concentrations identified in the standard are exceeded. The owner/operator shall maintain this facility at or below the emission rates as listed in Attachment A, not to exceed the pollutant limitations of this construction permit. Should the facility wish to increase the emission rates listed in Attachment A, not to exceed the pollutant limitations in the body of this permit, it may do so by the administrative process specified in this permit condition. This is a State Only enforceable requirement.
4.	These conditions shall not supersede any State or Federal requirements such as National Emission Standards for Hazardous Air Pollutants, unless these conditions would impose a more restrictive limit.
5.	This construction permit was reviewed and issued based on the permit application submitted by the owner/operator. The owner/operator shall obtain any Bureau authorization required under South Carolina Regulation 61-62.1, Section II(A)(1) prior to making modifications not covered under this construction permit.
6.	The owner/operator of this facility must submit a written request to obtain an operating permit to the Director of Engineering Services Division at least fifteen (15) days prior to placing this source into operation. The request should be made using the appropriate Title V modification form. This request shall also serve to meet the requirements as specified in SC Regulation 61-62.70.7.
7.	Unless elsewhere specified within this permit, all records required to demonstrate compliance with the limits established under this permit shall be maintained on site for a period of at least five (5) years from the date generated and shall be made available to a Department representative upon request.
8.	Unless elsewhere specified within this permit, all reports required under this permit including all recorded parameters and calculated values shall be submitted to the Manager of the Technical Management Section, Bureau of Air Quality, at the address listed below, postmarked no later than thirty (30) calendar days after the end of the reporting period. SC DHEC - BAQ Technical Management Section 2600 Bull Street Columbia, SC 29201
9.	The owner/operator shall install and maintain primary and secondary current meters for each field. Each parameter shall be recorded each shift during source operation. The ESP(s) shall be in place and operational whenever processes controlled by the ESP(s) are running, except during periods of ESP malfunction or mechanical failure. Operational ranges for the monitored parameters shall be established to provide a reasonable assurance of compliance. These operational ranges for the monitored parameters shall be derived from stack test data, vendor certification, and/or operational history and visual inspections, which demonstrate the proper operation of the equipment in compliance. These ranges, with supporting documentation and quality assurance procedures, shall be submitted to the Bureau for approval within 180 days of start up. The operating ranges may be updated using this procedure, following Bureau approval.

Condition Number	Conditions
10.	The biomass boiler is permitted to burn only clean wood, as defined in SC Regulation 61-62.1, Section I, as fuel. The use of any other substances as fuel is prohibited without prior written approval from the Bureau of Air Quality.
11.	The Biomass Boiler must demonstrate simultaneous compliance with requirements A and B and associated record keeping as detailed below: A. In accordance with SC Regulation 61-62.5, Standard No. 1, Section I (B), the Biomass Boiler shall not discharge into the ambient air smoke which exceeds opacity of 20%. During times of soot blowing the opacity may be exceeded for a total of 6 minutes in any hour or 24 minutes in any 24-hour period, but shall in no case exceed opacity of 60%. This opacity standard does not apply during startup and shutdown. B. In accordance with 40 CFR 60.43c(c), the biomass boiler shall not discharge into the ambient air smoke which exceeds an opacity of 20% except for one six-minute period per hour of not more than 27% opacity. This opacity standard does not apply during startup, shutdown, and malfunction. The owner/operator shall, to the extent practicable, maintain and operate any source including associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions. In addition the owner/operator shall maintain a log of the time, magnitude, duration and any other pertinent information to determine periods of startup and shutdown and make these records available to a Department representative upon request.
12.	In accordance with SC Regulation 61-62.5, Standard No. 1 - Emissions from Fuel Burning Operations, Section II - Particulate Matter Emissions, the allowable discharge of particulate matter resulting from the Biomass Boiler is 0.6 pounds per million BTU input.
13.	In accordance with SC Regulation 61-62.5, Standard No. 1 - Emissions from Fuel Burning Operations, Section III - Sulfur Dioxide Emissions, the maximum allowable discharge of sulfur dioxide (SO_2) resulting from the Biomass Boiler is 3.5 pounds per million BTU input.
14.	In accordance with SC Regulation 61-62.5, Standard No. 1, Section VI, the owner or operator shall conduct PM testing every two years for the Biomass Boiler in accordance with SC Regulation 62.1, Section IV. The Manager of Source Evaluation, Bureau of Air Quality, shall be notified at least 30 days prior to conducting a stack test. Results of the stack test shall be submitted to the Manager of the Source Evaluation, Bureau of Air Quality within 30 calendar days after the stack test is performed.
15.	In accordance with SC Regulation 61-62.5, Standard No. 1, Section VI, the owner or operator shall demonstrate compliance with sulfur dioxide emissions from the Biomass Boiler by source testing, continuous monitoring or fuel analysis every two years.
16.	In accordance with SC Regulation 61-62.5, Standard No. 5.2 – Control of Oxides of Nitrogen, Section III (b), the allowable discharge of NO_X resulting from the Biomass Boiler is 0.33 lb/mmBTU.
17.	In accordance with SC Regulation 61-62.5, Standard No. 5.2 – Control of Oxides of Nitrogen, Section IV, the owner/operator must perform tune-ups every two years on the Biomass Boiler, a tune-up plan must be developed and kept on file, and records of tune-ups must be kept on site for a minimum of 5 years.
18.	The Biomass Boiler is subject to the provisions of 40 CFR 60, New Source Performance Standards (NSPS), Subparts A (General Provisions) and Dc (Small Industrial-Commercial-Institutional Steam Generating Units). The owner/operator shall comply with all applicable parts of Subparts A and Dc.
19.	In accordance with 40 CFR 60.43c(e), on or after the date on which the initial performance test is completed or is required to be completed under 40 CFR 60.8, whichever date comes first, the owner or operator of the biomass boiler shall not cause to be discharged into the atmosphere any gases from the boiler that contain particulate matter emissions in excess of 13 ng/J (0.030 lb/MMBtu) heat input. The PM standard applies at all times, except during periods of startup, shutdown, or malfunction.

Condition Number	Conditions
20.	In accordance with 40 CFR 60.45c, the owner or operator of the Biomass Boiler shall conduct an initial performance test as required under §60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the procedures and reference methods stated in the regulation referenced above. PM
21.	In accordance with 40 CFR 60.47c, the owner or operator of the Biomass Boiler shall install, calibrate, maintain, and operate a COMS for measuring the opacity of the emissions discharged to the atmosphere from the Biomass Boiler and record the output of the system.
22.	In accordance with 40 CFR 60.48c, the owner or operator of the Biomass Boiler shall: 1) Submit notification of the date of construction or reconstruction, anticipated startup, and actual startup, as provided by 40 CFR 60.7 . This notification shall include all the requirements outlined in 40 CFR 60.48c(a)(1) through (a)(4). 2) Submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS and/or COMS using the applicable performance specifications in appendix B of Subpart Dc. 3) Shall submit excess emission reports for any excess emissions from the affected facility which occur during the reporting period. 4) Record and maintain records of the amounts and types of each fuel combusted by the Biomass Boiler. The amount and type of fuel combusted shall be recorded daily.
23.	The biomass boiler is subject to the provisions of 40 CFR 63, National Emission Standards for Hazardous Air Pollutants (MACT), Subparts A (General Provisions) and DDDDD (Industrial, Commercial, and Institutional Boilers and Process Heaters). The owner/operator shall comply with all applicable parts of Subparts A and DDDDD by the appropriate compliance date.
24.	In accordance with SC Regulation 61-62.1, Section II.H., the total emissions from the Fuel Oil Boiler (CP-a-CF) and the Biomass Boiler shall be limited to emitting less than 25 tons per year of PM, less than 15 tons per year PM_{10}, less than 40 tons per year of SO_2, less than 40 tons per year of NO_x and less than 100 tons per year of CO, in order for this project to remain synthetic minor for PSD.
25.	The owner/operator shall conduct an initial performance for NO_x within 180 days of startup of the Biomass Boiler to verify the emission factor for use when calculating the twelve month rolling sum in Condition 26.
26.	The owner/operator shall maintain fuel usage records for the Biomass Boiler and the Oil Boiler and any other records necessary to determine project total SO_2, NO_x and CO emissions. SO_2, NO_x and CO emissions shall be calculated on a weekly basis, and a twelve month rolling sum shall be calculated for total SO_2, NO_X, and CO emissions. Reports of the calculated values and the twelve-month rolling sum shall be submitted quarterly. The twelve month rolling sum shall be limited as follows: **Pollutant** — **Emission Limitation (TPY)** SO_2 — < 40 NO_X — < 40 CO — < 100 An algorithm, including example calculations and emission factors, explaining the method used to determine emission rates shall be included in the initial report. Subsequent submittals of the algorithm and example calculations are unnecessary, unless the method of calculation is found to be unacceptable by the Bureau or if the facility changes the method of calculating emissions and/or changes emission factors.

Condition Number	Conditions
27.	All gauges shall be readily accessible and easily read by operating personnel and Department personnel (i.e. on ground level or easily accessible roof level). Monitoring parameter readings (i.e., pressure drop readings, etc.) and inspection checks shall be maintained in logs (written or electronic), along with any corrective action taken when deviations occur. Each incidence of operation outside the operational ranges, including date and time, cause, and corrective action taken, shall be recorded and kept on site. Exceedance of operational range shall not be considered a violation of an emission limit of this permit, unless the exceedance is also accompanied by other information demonstrating that a violation of an emission limit has taken place. Reports of these incidences shall be submitted semiannually. If no incidences occurred during the reporting period then a letter shall indicate such. Any alternative method for monitoring control device performance must be preapproved by the Bureau and shall be incorporated into the permit as set forth in SC Regulation 61-62.70.7.
28.	All performance test plans, notifications and final reports shall be submitted to the Bureau of Air Quality's Source Evaluation Section according to SC Regulation 61-62.1 Section IV. A protocol shall be submitted to the Source Evaluation Section of this Bureau for approval indicating the proposed initial source test date and test procedure at least 45 days prior to the proposed test date. The Bureau must be notified at least two weeks prior to a source test so that a Bureau Representative may be present, and the final test report must be submitted no later than 30 days after completion of on-site testing.

Rhonda B. Thompson, P.E., Director
Engineering Services Division
Bureau of Air Quality

ATTACHMENT A

Modeled Emission Rates

United States Department of Energy - Washington Savannah River Company, LLC
Permit No. 0080-0041a-CF

AMBIENT AIR QUALITY STANDARDS - STANDARD 2					
STACK	Modeled Emission Rates (lbs/hr)				
	TSP	PM_{10}	SO_2	NO_X	CO
A-OBB (40 MMBTU/hr #2 Oil Fired Boiler)	0.9429	0.6571	20.2857	5.7143	1.4286
A-WB (40 MMBTU/hr Biomass Boiler)	2.8400	1.6000	1.0000	8.8000	24.0000

AMBIENT AIR QUALITY STANDARDS - STANDARD 2	
STACK	Modeled Emission Rates (lbs/hr)
	Lead
A-OBB (40 MMBTU/hr #2 Oil Fired Boiler)	0.001
A-WB (40 MMBTU/hr Biomass Boiler)	0.002

Notice of Appeal Procedure

The following procedures are in effect beginning July 1, 2006, pursuant to 2006 Act No. 387:

1. This decision of the S.C. Department of Health and Environmental Control (Department) becomes the final agency decision 15 days after notice of the decision has been mailed to the applicant or respondent, unless a written request for final review is filed with the Department by the applicant, permittee, licensee, or affected person.

2. An applicant, permittee, licensee, or affected person who wishes to appeal this decision must file a written request for final review with the Clerk of the Board at the following address or by facsimile at 803-898-3393.

   Clerk of the Board
   SC DHEC
   2600 Bull Street
   Columbia, SC 29201

3. The request for final review should include the following:
   a. the grounds on which the Department's decision is challenged and the specific changes sought in the decision
   b. a statement of any significant issues or factors the Board should consider in deciding how to handle the matter
   c. a copy of the Department's decision or action under review

4. In order to be timely, a request for final review must be received by the Clerk of the Board within 15 days after notice of the decision has been mailed to the applicant or respondent. If the 15th day occurs on a weekend or State holiday, the request is due to be received by the Clerk of the Board on the next working day. The request for final review must be received by the Clerk of the Board by 5:00 p.m. on the date it is due.

5. If a timely request for final review is filed with the Clerk of the Board, the Clerk will provide additional information regarding procedures.

6. The Board of Health and Environmental Control has 60 days from the date of receipt of a request for final review to conduct a final review conference. The conference may be conducted by the Board, its designee, or a committee of three members of the Board appointed by the chair.

7. If a final review conference is not conducted within 60 days, the Department decision becomes the final agency decision, and a party may request a contested case hearing before the Administrative Law Court within 30 days after the deadline for the final review conference.

The above information is provided as a courtesy; parties are responsible for complying with all applicable legal requirements.