Florida Department of Environmental Protection
Bob Martinez Center
2600 Blairstone Road
Tallahassee, Florida 32399-2400

May 2, 2008

Electronically Sent – Received Receipt Requested.

Mr. Glenn Farris glenn@biggreenenergy.com
President and Chief Executive Officer
Biomass Gas and Electric (BG&E) of Tallahassee, L.L.C.
3500 Parkway Lane
Suite 4000
Atlanta, Georgia 30092

Re: Request for Additional Information
Project Number: 0730109-001-AC

Dear Mr. Farris:

The Department has received your application for an Air Construction Permit by hardcopy submission on April 3, 2008. After review, it has been determined that the application is incomplete. In order to continue processing your application, the Department will need the additional information requested below. Should your response to any of the below items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

1. Material Handling. In the application, it is indicated that the wood fuel feedstock will be processed off-site and shipped by train to the facility location. The exact composition of the wood feedstock is not provided. Will the feedstock contain understory materials such as detritus material from the floor of forest areas and leaves and small branches or will it consist solely of chipped to size wood chunks from tree trunks? Detritus materials and leaves may contain mercury from dry and wet deposition which could affect the mercury emission estimates. [Rule 62-4.070, F.A.C. Reasonable Assurance]
2. Startups/Shutdowns. In the application, it is estimated that there will be a total of 6 startups of the gasifier system per year. There is no request of provisions in the permit for additional startups for shakedowns during the initial operation of the facility. Does BG&E actually anticipate that the facility will not required additional startups and shutdowns of the gasifier system during the first year of the facility's operation?
[Rule 62-4.070, F.A.C. Reasonable Assurance]
3. Volatile Organic Compounds (VOC) and Sulfur Dioxide (SO_2) Emissions during Shutdowns. On pages 12 to 15 of the application, emission estimates are provided for nitrogen oxides (NO_X) and particulate matter (PM) during shutdowns, while none are given for VOC and SO_X based on the argument that these emissions from the turbines are already low. What are the anticipated emissions of these pollutants during shutdowns?
[Rule 62-4.070, F.A.C. Reasonable Assurance]

4. Startup and Shutdown Procedures. In Section 2.2.1 of the application, the startup and shutdown modes and procedures for the gasifier/power block are briefly described with the caveat that full descriptions of the procedures are not provided due to their proprietary nature. To effectively assess the proposed durations and associated emissions involved during the startup and shutdown of the gasifier/power block of the facility, the Department requires a full description of the procedures. Please indicate which submitted documents are considered proprietary. [Rule 62-4.070, F.A.C. Reasonable Assurance]
5. Refractory Life. If the facility only requires 6 startups per year what is the anticipated life of the gasifier refractory? If additional startups are required, especially during the initial operation of the facility, how is the life of the refractory affected?
[Rule 62-4.070, F.A.C. Reasonable Assurance]
6. Syngas Cleanup. In Section 2.1.3 of the application, the syngas cleanup system proposed for the project is discussed. However, very few details of the proposed system are given. In previous meetings between the Department and BG&E, it was indicated by BG&E that the syngas cleanup system will be provided by Dahlman Filter Technology. Based on research done by the Department, the technology provided by Dahlman principally involves the removal of tar compounds from the syngas stream utilize an oil wash. Details on the removal of other pollutants of concern (particulates, inorganic impurities such as sulfur compounds and volatile metals) were not available from research or in the application. Please provide to the Department a more detailed description of the syngas cleanup system proposed for the facility, including, if available, process schematics, which will allow the Department to make a comprehensive technical evaluation of the gas cleanup system. If such information is deemed proprietary please indicate on the submitted documents.
[Rule 62-4.070, F.A.C. Reasonable Assurance]
7. Volatile Metal Emissions. As indicated in No. 6 above, no details are provided on how volatile metals, such as mercury, are going to be removed from the syngas. In the application, it is stated that the mercury concentration in the wood fuel is minimal and consequently expected mercury emissions are negligible. However, if this is not the case, does the syngas cleanup system utilize an activated carbon bed or something similar to control volatile metal emissions such as mercury?
[Rule 62-4.070, F.A.C. Reasonable Assurance]
8. Duct Burner Firing. Based on the application, it appears that the duct burners will only fire syngas (product gas). Will natural gas ever be fired in the duct burners?
[Rule 62-4.070, F.A.C. Reasonable Assurance]
9. Emissions Averaging. In Table 3-2 of the application, emissions in ppm at 15 percent oxygen (O_2) of NO_X, carbon monoxide (CO), volatile organic compounds (VOC), and ammonia (NH_3) appear to be given for annual stack testing requirements. Please provide Continuous Emissions Monitoring System (CEMS) 24 hour block average and 12 month rolling average estimates of CO emissions and 24 hour block average and 30 day rolling average estimates of NO_X, emissions when firing the combustion turbine and the combustion turbine in combination with the duct burners for the temperatures and loads cited in the table.
[Rule 62-4.070, F.A.C. Reasonable Assurance]

10. SO_2 Emissions. On page 19 of the application, it is stated that SO_2 emissions will be minimized through the utilization of natural gas during startups and the gas cleanup system on the product gas. Please provide estimates of the SO_2 concentration in the product gas before and after cleanup. In addition, provide estimates of SO_2 stack emissions when firing product gas for the same conditions described in No. 9 above.
    [Rule 62-4.070, F.A.C. Reasonable Assurance]
11. Combustion Turbine and Duct Burner Emissions Estimates. When comparing the upper and lower portions of Table 3-2 of the application, the emissions of NO_X, CO, and VOC appear to be lower when firing the duct burners than when not, please clarify. In addition, pollutants and units given in the table are not defined nor is the basis for the different emission concentrations for the various pollutants. Please redo this table and resubmit to address these issues and generally provide a clear overview of the expected emissions for the project as a function of turbine load, ambient air temperature, and duct burner firing.
    [Rule 62-4.070, F.A.C. Reasonable Assurance]

The Department will resume processing your application after receipt of the requested information. Rule 62-4.050(3), F.A.C., requires that all applications for a construction permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. For any material changes to the application, please include a new certification statement by the authorized representative or responsible official. You are reminded that Rule 62-4.055(1), F.A.C., now requires applicants to respond to requests for information within 90 days or provide a written request for an additional period of time to submit the information.

If you should have any questions, please contact Mr. David Read at 850/414-7268 or Syed Arif 850/921-9528.

Sincerely,

A.A. Linero, Program Administrator
Special Projects Section

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