



November 17th, 2008

Via E-Mail

Trina Vielhauer, Chief
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399

RE: Tallahassee Renewable Energy Center
Biomass Integrated Gasification and Combined Cycle Unit
DEP File No. 0730109-001-AC
Supplemental Comments

Dear Ms. Vielhauer:

Biomass Gas & Electric of Tallahassee, LLC (BG&E), sincerely appreciates your and your staff's careful review of the comments we submitted on November 12th. Based on the feedback we received from the Department, we offer the following additional comments and clarifications regarding the proposed air permit for the Tallahassee Renewable Energy Center.

1. **Financial Assurance** –To clarify that the financial assurance bond referenced in **General Condition 9** under Section 2 is already required as a condition of BG&E's sublease from Florida State University, BG&E requests that Condition 9 be revised as follows:

Permittee has subleased the project site from Florida State University, which has leased the site from the State of Florida. Under the terms of the sublease agreement between the Florida State University Board of Trustees and the permittee dated February 2, 1007, permittee is obligated to post a payment bond in favor of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida and the State of Florida Department of Environmental Protection prior to commencement of construction, the permittee shall post a payment bond in favor of the State of Florida Department of Environmental Protection in the amount of two million dollars (\$2,000,000) to cover the cost of removal of all constructed facilities and equipment from the subleased premises as well as restoring the site to its original condition or conversion of the biomass energy production facility to another type of alternative energy production facility as required by the sublease agreement between the Florida State University Board of Trustees and the Permittee dated February 2, 2007. This bond may also be used at the discretion the Florida Department of Environmental Protection for the removal of any items from the

site including but not limited to: wood, reagents such as ammonia, other fuels (including tars). [Rules 62-4.110, and 62-4.210(1)(c), F.A.C.]

2. **Equipment Malfunctions** – Because the Department’s Rule 62-210.700, F.A.C., authorizes excess emissions due to malfunctions, as well as during startup and shutdown of a unit, because particulate matter emissions from the materials handling and storage operations are de minimis, because the baghouses proposed for the materials handling and storage operations are not required by any applicable requirement, rule, or regulation, because non-operation of the baghouses would not necessarily but could result in excess emissions, and because it may be necessary and appropriate to continue operating the materials handling system and the gasifier/combustor unit while the baghouses may be down for repairs, BG&E requests that **Conditions 3.A.2 and 3.C.4** be revised to authorize continued operation of the gasifier/combustor, gas clean-up system and power block if the baghouses on the materials handling, feedstock storage and biomass feed system malfunction as well as to specifically provide that excess emissions are authorized consistent with the Department’s Rule 62-210.700, F.A.C., as follows: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing that the best operational practices to minimize emissions are adhered to and any excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited. *[I’m unclear why we wouldn’t want the excess emissions/malfunction provisions to apply across-the-board, to Subsections A, B, C, D, and H]* Please consider the following:

Each part of the materials handling system is able to be shut down without prohibiting other parts of the operation from functioning. If the biomass dryer were to be shut down the gasifier system could continue to operate at possibly a reduced capacity. The biomass dryer is not an essential piece of equipment for the plant to continue operation. The gas production and cleanup system is designed to accommodate feedstock moisture contents up to 30%. This operating condition will not increase emissions.

Not all of the materials handling equipment will be operated on a 24 hour per day, 7 day per week basis. The biomass rail unloading system only runs while the plant is receiving biomass feed stock. The biomass feed system to the gasifier has a 4-hour feed hopper located at the gasifier. This hopper would allow the entire biomass feed system to be shut down for 2 to 3 hours without shutting down the process or creating any excess emissions. If the need for additional time was identified at the time the problem occurred the gasifier product gas production could be reduced to continue operation for a longer period of time without having to actually shut down. Bags normally have a life expectancy of 3-7 years and can easily be replaced because of normal replacement or malfunction within 2-3 hours while the appropriate materials handling sub-system is shut down.

Baghouses are low maintenance equipment and have three critical pieces to them. There is a filter; blower and bag in each bag house. The filters are the most frequently changed item and the filter inspection / replacement could be done on a planned shutdown. The baghouse blower and filter are the higher maintenance part of the system. Our design has inline spares which would allow maintenance on these items without a shutdown of the baghouse. In other words should

any malfunction of a filter or blower occur, then the redundant system would be automatically put in service and the proper fix or maintenance would be performed. The entire feedstock system has this feature.

The SilvaGas gasifier / combustor system has a baghouse dedicated to the flue gas discharge to atmosphere. The baghouse filter is a reliable system but has no redundancy. If it were shutdown for any reason the entire system would be shutdown.

3. **Material Storage – Condition 3.B.7** identifies operational procedures to minimize spontaneous combustion for storage of woody biomass materials. BG&E intends to implement a stacker / reclaimer system which will ensure that spontaneous combustion does not occur because the material will be used on a “first in, first out” basis. Because BG&E’s methods vary from those identified in this condition, BG&E respectfully requests that the condition be revised to read as follows:

- a. Incoming unprocessed materials shall be stored in piles in a manner to ensure a first in, first out system, generally described as follows: An automated stacker reclaimer system will be used. The system will be mounted on a drive shaft running through the length of the storage building. The system will begin developing a feedstock pile at one end of the storage area. When that first portion of the pile reaches a certain height, the stacker will continue to build the pile horizontally until the full length of the pile is established. The system will then move back to the starting point and reverse itself to de-construct the pile on a first-in first-out basis. When new feedstock arrives, it will be added to the storage pile, starting with the last built area. The system will continue to rebuild the pile in this manner, so that management of the feedstock is always managed as first-in first-out.
- b. The feedstock storage area must be covered and include a fire suppression system.
- c. The storage sites shall be level and on firm ground.

4. **Tars** – It is unlikely but possible that the need could arise to dispose of tars offsite should a malfunction of the gasifier/combustor occur. In that situation, the tars would remain in the gasifier/combustor vessel until removed and immediately deposited in a container for delivery offsite for proper disposal. BG&E would not store the tars onsite, other than temporarily in the gasifier/combustor vessel. BG&E therefore requests that Condition E.2. be revised to clarify that tars may be disposed of offsite if necessary.


5. **Detailed Records of Reject Materials** – BG&E requests that **Paragraph 8** of Section 4, Appendix E be revised to delete the last sentence requiring BG&E to maintain records of the amount of rejected materials and the reason for each rejection. Paragraph 6 of Section 4, Appendix E. fully addresses the fuel quality and control issue. If additional requirements are deemed necessary, perhaps a condition could be included that requires BG&E to visually inspect each shipment of feedstock prior to unloading. If any unloaded feedstock is later determined not to meet BG&E’s feedstock specifications, then the material shall be disposed of offsite.

6. **Water Filtration** - Water from the condenser/scrubbing operation will deliver approximately 36,000 lbs per hour of water to the activated carbon filtration/absorption system. The activated carbon system will be filtering out H₂S, HCl, NH₃, Sulfides of Mercury and other

trace amounts of organic compounds. The water will be tested monthly. Materials captured by the carbon absorption unit cartridges will be ultimately disposed of offsite.

BG&E appreciates the Department's consideration of these comments. If you have any questions in the meantime, please do not hesitate to contact me.

Sincerely,



Glenn Farris

cc: Ronni Moore, DEP
Al Linero, DEP
Scott Osbourn, Golder