UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

SEP 0 7 2012

Mr. Stephen Naeve
Chief Operating Officer
APEX Bethel Energy Center, LLC
3200 Southwest Freeway, Suite 2210
Houston, TX 77027

RE: Application Completeness Determination for APEX Bethel Energy Center, LLC
Greenhouse Gas Prevention of Significant Deterioration Permit
Tennessee Colony, Anderson County, Texas

Dear Mr. Naeve:

This letter is in response to your application received by this office on June 22, 2012, for a Greenhouse Gas (GHG) Prevention of Significant Deterioration (PSD) permit. After our initial review of the application and supporting information, we have determined that this application is incomplete based on the requirements of 40 CFR 124 and additional information is required to begin the processing of the application. Enclosed is a list of the information required (see Enclosure).

Upon receipt of the additional information, the Environmental Protection Agency (EPA) will prepare a completeness determination. The requested information is necessary for EPA to develop a Statement of Basis and Rationale for the terms and conditions for the requisite permit. As we develop our preliminary determination, it may be necessary for EPA to request additional clarifying or supporting information. If the supporting information substantially changes the original scope of the permit application, an amendment or new application may be required.

Although not required as a part of our completeness determination, the EPA may not issue a final permit without determining that there will be no effects on endangered species or until it has completed consultation under Section 7 of the Endangered Species Act(16 USC 1536). In addition, the EPA must undergo consultation pursuant to Section 106 of the National Historic Preservation Act (16 USC 470f). To expedite these consultations, the EPA requests that permit applicants provide a Biological Assessment and a cultural resources report covering the project and action area.

If you have any questions concerning the review of your application, please contact Melanie Magee of my staff at (214) 665-7161.

Sincerely yours,

for Carl E. Edlund, P.E.
Director
Multimedia Planning and
Permitting Division

Enclosure

cc: Mr. Mike Wilson, P.E.
Director, Air Permits Division
Texas Commission on Environmental Quality

ENCLOSURE

EPA Completeness Comments
APEX Bethel Energy Center, Tennessee Colony, Anderson County, Texas
Application for Greenhouse Gas Prevention of Significant Deterioration Permit

1. Please provide supplemental data on the process flow diagram that identifies all GHG emission units with corresponding emission source numbers (EPNs), i.e., fugitive and maintenance, startup and shutdown emissions.

2. What are the proposed monitoring requirements for the combustion turbines operating parameters? How will the air/fuel ratio be assured during operation of the combustion turbine, i.e., alarms, alerts, continuous monitoring, etc? Will O_2 or CO_2 analyzers be utilized? What will be the target ratio? Please provide more details of what operating parameters will be monitored to ensure good combustion. On page 5-8 of the permit application, the proposed BACT output-based limit is 4773 BTU/kWh and 558 lb CO_2/MWh. What is the company's proposed compliance monitoring methodology for this limit? Please provide a proposed maintenance and inspection schedule. To maintain the combustion efficiency, the burner maintenance will be included in the preventive maintenance program and burners will be inspected while in service. Please provide details concerning the preventive maintenance on burners, frequency and how it will be monitored and recorded. How often will burners be inspected while in service? How will this be ensured? What is the company's proposed monitoring requirements to ensure the heat recovery efficiency in Table 5-2 on page 5-7 for the recuperator is being met? What will alert on-site personnel to problems?

3. On page 5-2 of the permit application, the individual GHG emission rates that are presented in Table 5-1 do not add up to total emissions. Please explain the discrepancies.

4. Beginning on page 5-4 of the permit application, the cost estimates provided for the Carbon Capture and Storage (CCS) appear to rely on the August 2010 report entitled "Report of the Interagency Task Force on Carbon Capture and Storage." Since BACT is a case-by-case determination, please provide site-specific facility data to evaluate and eliminate CCS from consideration. This material should contain detailed information on the quantity and concentration of CO_2 that is in the waste stream and the equipment for capture, storage and transportation. Please include cost of construction, operation and maintenance, cost per pound of CO_2 removed by the technologies evaluated and include the feasibility and cost analysis for storage or transportation for these options. Please discuss in detail any site specific safety or environmental impacts associated with such a removal system, including any details regarding increased GHG emissions if CCS was installed.

5. On page 5-10 of the permit application, it states that "In addition to the combustion sources planned for the Bethel Energy Center, there are natural gas emissions from leaking piping components, which include methane and CO_2 emissions and sulfur hexafluoride (SF_6) circuit breakers." The identified control technologies for fugitive emission are a formal Leak Detection and Repair (LDAR) Program and a Comprehensive Equipment Maintenance Program. APEX is proposing a comprehensive equipment maintenance program that will include "periodic" inspections for leaks using auditory, visual, and olfactory (AVO) methods to find leaks. Leaks will be repaired in a "reasonable" amount of time. Please provide supplemental data that

discusses in detail the specifics of the proposed comprehensive maintenance program, inspection and repair schedule. What is the proposed monitoring and recordkeeping strategy for this program? In addition, please provide a 5-step BACT analysis for fugitives that include a comprehensive evaluation of alternative technologies for detection and repair to minimize leaks or other LDAR programs considered to reduce methane fugitive emissions and a basis for elimination. The technologies could include, but are not limited to, the following:

- Installing leakless technology components to eliminate fugitive emission sources;
- Implementing an alternative monitoring program using a remote sensing technology such as infrared camera monitoring;
- Designing and constructing facilities with high quality components and materials of construction;
- Monitoring of flanges for leaks;
- Using a lower leak detection level for components

6. APEX proposes a natural gas generator. The generator will operate during emergencies for backup power generation. Please provide benchmark comparison efficiency and design data for the emergency generator to existing or similar sources.

7. Please provide supplemental technical data to support basis or rationale for the example calculations provided in Appendix A for the turbines. Please provide data for the combustion turbine generators that includes heat load and efficiency data that was selected. (This information can be graphically represented). Please provide supplemental information as a basis to support the heat rates used in the emission calculations in the Appendix. Please provide the rationale that indicates operating these turbines at the heat loads used in the calculations is energy efficient as BACT.