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

MAY 29 2012

Ms. Kathleen Smith
President
La Paloma Energy Center, LLC
4011 West Plano Parkway, Suite 128
Plano, TX 75093

Subject: Completeness Determination for the La Paloma Energy Center (LPEC) Greenhouse Gas Prevention of Significant Deterioration (PSD) Permit Application

Dear Ms. Smith:

This letter is in response to your April 26, 2012, application to the Environmental Protection Agency (EPA) for a Greenhouse Gas (GHG) Prevention of Significant Deterioration (PSD) permit. EPA received this application on April 30, 2012. After an initial review of your application, and all supporting information, we have determined that this application is incomplete (40 CFR 124) and additional information is required to consider it complete. Enclosed is a list of additional information required.

Upon the receipt of the additional information, we will review it for completeness. If complete, we will issue a completeness determination on the technical information of your application. The information requested is necessary for EPA to begin the process of developing a Statement of Basis and rationale for the terms and conditions for a draft PSD permit. As we develop our preliminary determination and draft permit, it may be necessary for the EPA to request additional clarifying or supporting information. Supplemental information on one or more parts of the application may be required before we can propose a draft permit. If the supporting information substantially changes the original scope of the permit application, an amendment or new application may be required.

While not required for the completeness determination, the EPA may not issue a permit until it has been established that the issuance of the permit will have no impact on endangered species pursuant to Section 7 of the Endangered Species Act. In addition, the EPA must complete a consultation in accordance with Section 106 of the National Historic Preservation Act. To expedite these consultations, the EPA requests that the permit applicants provide a biological assessment and cultural resources report covering the project and action area. We

request that you submit this information as early as possible, so that the EPA may issue a permit at the earliest possible time, and within the timeframes required by statute.

If you have any questions regarding the review of your permit application, please contact Aimee Wilson of my staff at (214) 665-7596 or wilson.aimee@epa.gov.

Sincerely yours,

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

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

Enclosure

EPA Comments on La Paloma Energy Center, LLC
Greenhouse Gas Permit Application
Application dated April 26, 2012

Emission Calculations

1. Section 3 provides the emission calculations for the various emission units associated with the proposed project. Each section references calculations found in tables at the end of the section. The table references are incorrect. For example, Section 3.2 Auxiliary Boiler, on page 18, states, "Calculations of GHG emissions from the auxiliary boiler are presented on Table 3-4". The table identified as Table 3-4 has the heading "GHG Annual Emission Calculations - Siemens SGT6-5000F(4) Combined Cycle Combustion Turbines". Looking through the Section 3 tables, Table 3-8 is found with the heading "GHG Emission Calculations - Auxiliary Boiler". Please update this section to reference the correct tables.

BACT Analysis

2. The permit application, on page 1, indicates that La Paloma Energy Center (LPEC) is considering three different models of combustion turbines. There is only one BACT analysis contained in the application. BACT is determined on a case-by-case basis, therefore provide a BACT analysis for each combustion turbine that is being considered, and a BACT emission limit proposed for each combustion turbine evaluated.

3. Page 41 of the permit application under the heading "Efficient Steam Turbine Generator Design", it states there are three methods for cooling the turbine. Were all three cooling methods evaluated in the BACT analysis? Is there an energy penalty for any of the cooling methods? Which cooling method was selected? Why was it selected?

4. The heat rate limit must be determined for each combustion turbine evaluated. Page 47 of the permit application gives the parameters used to calculate the heat rate limit. Would all three combustion turbines use these same parameters? If no, what parameters were used?

5. A BACT emission limit must be proposed for each combustion turbine evaluated, and for the auxiliary boilers, and emergency generator and fire pump engine. BACT limits for

GHG emission units should be output based limits preferably associated with the efficiency of individual emission units. Please propose short-term emission limitations or efficiency based limits for all emission sources. For the emission sources where this is not feasible, please propose an operating work practice standard. Please provide detailed information that substantiates any reasons for infeasibility of a numerical limit.

6. The application provides a five-step BACT analysis for Carbon Capture and Sequestration (CCS) and La Paloma has concluded that the use of this technology is not technically feasible for the combustion turbine generator (CTG)/heat recovery steam generator (HRSG). A general cost analysis, Table 5-1 of the permit application, is provided. Please supplement your five-step BACT analysis with details indicating the equipment needed to implement CCS, the costs of such equipment, the diameter and length of pipeline needed for transport, and provide site specific costs versus a range of approximate costs. Also, we are requesting a comparison of the cost of CCS to the current project's annualized cost.

7. One reason given for eliminating CCS on technical feasibility is the gas turbine exhausts have a low CO_2 concentration. What is the CO_2 concentration of the CTG/HRSG exhaust stream?

8. The current BACT analysis does not appear to provide adequate information in the five-step BACT analysis for the three CTG/HSRG units considered, auxiliary boilers, emergency generator, and fire pump engine. Step 2 does not provide detailed information on the energy efficiency measures evaluated. In Step 3, the applicant should provide information on control efficiency, expected emission rate, and expected emission reductions. The applicant should provide comparative benchmark information indicating other similar industry operating or designed units and compare the design efficiency of LPEC's process to other similar or alike processes. The applicant should then use this information to rank the available control technologies. A comparison of equipment energy efficiencies is necessary to evaluate the energy efficiency of the proposed equipment and possible control technologies. This information should also detail the basis for your BACT proposal in determining BACT limits for the emission units for which these technologies are applied in Step 5. Where appropriate, net output-based standards provide a direct measure of the energy efficiency of an operation's emission-reducing efforts. LPEC should supplement the BACT analysis to provide all necessary information required in Steps 2, 3, and 4 of the five-step BACT analysis.

9. The BACT analysis provided does not evaluate the natural gas piping and fugitive emissions. Please provide a 5-step BACT analysis for these emission units including the use of a leak detection and repair (LDAR) program.