

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 6  
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DALLAS TX 75202-2733

FEB 11 2013

Ms. Alissa Oppenheimer  
Managing Director  
Chamisa Compressed Air Energy Storage (CAES) at Tulia, LLC  
2300 North Ridgetop Road  
Santa Fe, New Mexico 87506

RE: Application Completeness Determination for Chamisa CAES at Tulia, LLC  
Greenhouse Gas Prevention of Significant Deterioration Permit  
Tulia, Swisher County, Texas

Dear Ms. Oppenheimer:

This letter is in response to your application received by this office on November 6, 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). Please notify us if a complete response is not possible by March 1, 2013.

The requested information is necessary for EPA to develop a Statement of Basis and Rationale for the terms and conditions for any proposed 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.

The EPA may not issue a final permit without determining that: 1) there will be no effects on threatened or endangered species or their designated critical habitat, or 2) until it has completed consultation under Section 7(a)(2) of the Endangered Species Act (ESA) (16 USC § 1536). In addition, the EPA must undergo consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA) (16 USC § 470f). As a reminder, NHPA implementing regulations require that EPA provide information to the public with an opportunity for participation in the Section 106 process. 36 CFR § 800.2(d). We look forward to receiving the Biological Assessment and Cultural Resources Reports that you have agreed to prepare for EPA for our use in complying with these statutes.

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

Sincerely yours,

A handwritten signature in black ink, appearing to read "D. F. Garcia". The signature is fluid and cursive, with the first letters of each word being capitalized and prominent.

David F. Garcia  
Acting Director  
Multimedia Planning and  
Permitting Division

## ENCLOSURE

### EPA Completeness Comments Chamisa CAES at Tulia, LLC, Tulia, Swisher County, Texas Application for Greenhouse Gas Prevention of Significant Deterioration Permit

1. Please provide an additional impacts analysis as required by 40 CFR 52.21(o). Note that the depth of your analysis will generally depend on existing air quality, the quantity of emissions, and the sensitivity of local soils, vegetation, and visibility in the impact area of your proposed project. In your analysis, please fully document all sources of information, underlying assumptions, and any agreements made as a part of the analysis
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, e.g., alarms, alerts, and/or continuous monitoring? Will O<sub>2</sub> or CO<sub>2</sub> analyzers be utilized? Was it considered as part of your BACT analysis? If so, why was it eliminated? What will be the target ratio? Please provide more details of what operating parameters you are proposing to monitor to ensure good combustion.
3. On page 36 of the permit application, in Table 7 entitled "Proposed Emission and Production Limits," there are two proposed limits for the turbine. Please provide supplemental data to explain the rationale for proposing the following limits: 550 lbs CO<sub>2</sub>/MWh (net) at maximum load and 620 lbs CO<sub>2</sub>/MWh (net) at any load from 25% to 100%. The limits appear to contradict the other. It is not clear the difference between "maximum load" and "100% load". Please provide an explanation for terms and the mode of operation. Also on page 32, it is stated that the Chamisa Facility will achieve heat rates over a range of plant operating rates of 50% - 100% of 4511 – 4674 (HHV) BTU per net kWh produced. Please provide a proposed BACT limit for the turbines that takes into account load fluctuations and performance degradation between overhauls. Please provide the calculations and the rationale that indicates operating these turbines at the heat loads used in the calculations is energy efficient as BACT. Please provide data for the combustion turbine that includes heat load and efficiency data that was selected. (This information can be graphically represented). What is the company's proposed compliance monitoring methodology for this limit?
4. Please provide supplemental information that discusses in more detail the maintenance and operating practices that will be utilized to ensure proper combustion occurs in the turbines.
5. Please provide supplemental benchmark data that compares the proposed recuperator for this project to those used in similar or existing sources. What is the company's proposed monitoring requirements to ensure the heat recovery efficiency for the recuperator is being met? What instrumentation or controls will alert on-site personnel to problems? Please provide benchmark data that compares other currently operating CAES installations to the proposed Chamisa project that includes recuperator efficiency, electricity output, heat rate, number of expanders, cavern operating pressure, and hours of storage.
6. Chamisa 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.

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7. In Tables 2 and 3 of the permit application, please supplement emission calculations with fuel analysis results for the combustion turbines and generator and include the carbon factor (lbs of carbon/lb of fuel) for these fuel compositions.