

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2733

JUN 15 2012

Mr. Andres R. Ramirez  
Vice President – Power Generation  
El Paso Electric Company  
100 N. Stanton  
El Paso, TX 79901

RE Completeness Determination for El Paso Electric Company  
Greenhouse Gas Prevention of Significant Deterioration (PSD) Permit Application  
Montana Power Station Project

Dear Mr. Ramirez,


This letter is in response to your permit application received on April 23, 2012, and Appendum to application received May 24, 2012, for a Greenhouse Gas Prevention of Significant Deterioration permit. After our review of the application and supporting information, we have determined that this application is incomplete based on requirements of 40 CFR 124 and additional information is required to begin the processing of the draft 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 to the EPA. We note that we have received a biological assessment for the project, but we have not received a cultural resources report for the National Historic Preservation Act.

If you have any questions regarding the review of you permit application, please contact Melanie Magee of my staff at (214) 665-7161 or [magee.melanie@epa.gov](mailto:magee.melanie@epa.gov).

Sincerely yours,

A handwritten signature in black ink, appearing to be 'C. Edlund', with a long, sweeping horizontal flourish extending to the right.

for 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 Information Request**  
**El Paso Electric Company - Montana Power Station Project**  
**Application for Greenhouse Gas Prevention of Significant Deterioration Permit**  
**El Paso, Texas**

### General

1. On page 3 of the permit application, it states “the Montana Power Station will be designed to have a total power generation output capacity of approximately 400 MW for peaking/intermediate load operation during all year demand periods.” Also, the permit application indicates on page 41 “EPEC’s primary objective in pursuing the proposed project is to construct a Peaking Electric Generating Station that will be used during periods of high demand... Compared with SCCTs, CCCTs simply have slower ramp rates and are designed for intermediate load and baseload operations.” Since you indicate that this power station could be used for intermediate load operation, and have proposed a 5,000 hours per year operational limit, which is indicative of more than a peaking operation (as explained below), please explain whether you evaluated combined cycle units. If you did consider combined cycle units, please explain the technical and/or economic basis for rejecting the technology.
2. We note that, on page 36 of the permit application, you reference the proposed Standards of Performance for GHG Emissions from Electric Utility Generating Units (EGUs), which was signed by the EPA Administrator on March 27, 2012. Your application specifically states that EPA has proposed an emissions limit of 1,000 lb CO<sub>2</sub>/MWh, on a 12-month annual average for all EGUs that do not employ CCS technology, and exempted simple cycle combustion turbines. However, it is important to note EPA’s reason for the exemption, as stated in the proposed NSPS:

“Combined cycle plants and coal-fired plants are typically designed to provide baseload or intermediate-load power, while simple cycle turbines are designed to provide peaking power... because peaking turbines operate less and because it would be much more expensive to lower their emission profile to that of a combined cycle power plant or a coal-fired plant with CCS, the EPA does not believe it is appropriate to include them in this source category.” (77 FR 22411)

The proposed NSPS for EGU’s also states:

“The potential electric output requirement in the definition of electric generating unit would exclude facilities with permit restricting limiting operation to less than 1/3 of their potential electric output, approximately 2,900 hours of full load operation annually. The peaking season is generally considered to be less than 2,500 hours annually, and EPA is requesting comment if the capacity factor exemption is sufficient such that specifically exempting simple cycle turbine is unnecessary.” (77 FR 22431-2)

Furthermore, 40 CFR 72.2 defines a “peaking unit” as having “an average capacity factor of no more than 10.0 percent during the previous three calendar years and a capacity factor of no more than 20.0 percent in each of those calendar years.” The proposed 5,000 hour annual operational limit is substantially greater than either a 10 (average annual) or 20 percent (maximum annual) capacity factor.

The proposed 5,000 hour annual operational limit for the Montana Power Station is greater than the 2,900 operational hours contemplated for peaking units in the proposed NSPS for EGUs, and also appears to be greater than either the 10 (average annual) or 20 percent (maximum annual) capacity factor in the federal definition of “peaking unit.” Accordingly, please provide supplemental details on expected load shift and duration of periods of reduced generation or no load that would negatively impact EPEC from selecting combined cycle turbines and/or any data/plant metrics that supports the selection of simple cycle turbines in the BACT analysis. Please also provide a calculated annual load factor for the proposed combustion turbines.

3. On page 25 of the permit application, it is indicated that the “site specific natural gas heating value was obtained from the natural gas analysis.” Please provide the results of the natural gas analysis. The application states that each turbine will release a “small amount of unburned methane” during a startup and shutdown event: The startup emissions = 0.8 lbs/event and shutdown emissions = 1.07 lbs/event.” The permit application indicates that these startup and shutdown emissions have been included in the calculations that determined the proposed GHG emission limits. Please provide supplemental data that supports the basis for the proposed emission limit data.
4. On page 25 of the permit application, the application indicates a proposed 832 startup and 832 shutdown events for each turbine. Please provide supplemental data to support the rationale for this number of proposed startup and shutdowns. The discussion should include a detailed explanation of the power plant’s operating mode that justifies the proposed startup and shutdown events used to calculate the emission limits. On startup and shutdown, please specify if it is a cold or a hot standby startup.

5. What are the proposed monitoring and recordkeeping requirements for the combustion turbine's operating parameters? How will the air/fuel ratio be assured during operation of the combustion turbine, i.e., alarms, alerts, computer monitored, etc? Will O<sub>2</sub> analyzers be utilized? What will be the target ratio? Please provide more details of what operating parameters will be monitored to ensure good combustion. What is the company's proposed compliance monitoring methodology? Please provide more information pertaining to the automation of the combustion turbine operation that will ensure optimal fuel combustion. What will be the operating control parameters of the evaporative cooling system? How will the system be maintained to ensure it is operating properly and efficiently?

### BACT Analysis

6. On page 47 in Table 10.2, the permit application includes a list of available simple cycle combustion turbines that you evaluated for this project. In order to support the selection of the proposed combustion turbine model, please supplement this comparative analysis with additional data that includes production output, gross heat rate and percent efficiency of each existing or similarly designed combustion turbines (this information may be represented graphically in load/efficiency curves).
7. Beginning on page 49 of the permit application, the cost estimates provided for the Carbon Capture and Storage appear to solely rely on the August 2010 report entitled "Report of the Interagency Task Force on Carbon Capture and Storage." BACT is a case-by-case determination. Please provide site-specific facility information to evaluate and eliminate CCS from consideration. This information should contain detailed information on the quantity and concentration of CO<sub>2</sub> 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<sub>2</sub> 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.
8. On page 52 of the permit application, the application states that "EPEC will purchase a firewater pump internal combustion engine (ICE) certified by the manufacturer to meet applicable emission standards." Please provide supplemental data manufacturer design data and comparative benchmark data to existing or similar sources documenting the efficiency of proposed engines for this project.

9. On page 53 of the permit application, EPEC proposes to implement fugitive emission monitoring through the 28 MID LDAR. Please provide the basis used to select the TCEQ 28 MID LDAR program for fugitive emissions. Were other TCEQ LDAR programs considered as a possibility for this project? If so, what was the basis for elimination of the other programs as a part of your 5-Step BACT analysis?

#### Emissions calculations

10. In Appendix B in the table entitled “Combustion Sources of GHG Emissions”, please provide supplemental data that is referenced in footnote 3, the “Natural gas heating values obtained from the natural gas analysis provided by M. Robert Daniels (El Paso Electric Company) to Ms. Christine Chambers (Trinity Consultants) via email on February 27, 2012. Also provide data that is referenced in footnote 5, the “Annual hours of operation information provided by Mr. Robert Daniels (El Paso Electric Company) to Ms. Latha Kambham (Trinity Consultants) via email on March 26, 2012. This includes hours for MSS activities.”
11. EPA acknowledges that, per 40 CFR 98, GHG emissions are reported in metric tons; however, in the *PSD and Title V Permitting Guidance for Greenhouse Gases* March 2011 on page 11, short tons (2000 lbs), not long or metric tons, are used in PSD applicability calculations. Please change the GHG emission rates that are presented in the tables found in Appendix B and throughout the permit application from metric to short tons.