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December 23, 2019

Mr. Robert Havalda
El Paso Natural Gas Company
1100 Louisiana St.,
Houston, TX 77002-5227

Sent by electronic mail to: rmhavalda@eprod.com

Subject: Request for Additional Information for Four-Factor Analyses under the Regional Haze Program

Dear Mr. Havalda:

This letter is to request additional information for the Enterprise Chaco Gas Plant Four-Factor Analysis that was received by the New Mexico Environment Department (NMED) Air Quality Bureau (AQB) on November 14, 2019. Pursuant to [NMED's Regional Haze Guiding Principles](#), the Four Factor Analysis must consider new ideas that potentially offer better solutions to problems and must evaluate the newest engineering methods and technology advances in potential control measures.

To continue its review, the NMED requires additional information and clarifications on the Chaco Gas Plant sources as follows.

1. **Engines:** Please provide the following information for the Clark two-stroke lean burn (2SLB) Reciprocating Engines, Unit Numbers 12, 13 and 14, that were evaluated for nitrogen oxides (NO_x).
 - a. Please provide a more thorough Selective Catalytic Control (SCR) evaluation. Include documentation of the spacing evaluation on SCR equipment and verify how that makes it impossible to install at the site. Are there other possible installation designs and what would the potential emissions reductions be? If there are other restrictions or problems with potential SCR installation, please provide documentation.
 - b. Please verify and provide documentation that control systems have not yet been developed for SCR controls that can handle variable load engines. This appears to be one main reason that SCR has not been implemented on 2SLB internal combustion engines in oil and gas midstream operations.
 - c. Consider Good Combustion Practices (GCP) and the routine maintenance as controls and provide the details how both would be achieved including a maintenance schedule and procedures.

- d. Consider and include a discussion on the feasibility and cost of technology that limits engine capacity to reduce NO_x emissions. Also evaluate limitations on engine operating hours or shutting down engines that are no longer needed to reduce emissions.
 - e. Please consider and include a discussion on the feasibility of replacing natural gas-fueled engines/turbines with commercial electric powered compressors.
 - f. Provide information on the Clean Burn Technology (CBT) used in the base case. Consider and include a discussion of variations of CBT used to reduce NO_x emissions that may be more effective than the existing package if available. Please include cost and efficiencies in analysis.
 - g. Provide vendor specifications that include the cost information, recommendations, and equipment specifications for the engine cost control estimates.
 - h. Provide any electronic spreadsheets used for control technology calculations.
2. **Flaring:** Please provide the following information for the flares at the Enterprise Chaco Gas Plant.
- a. Provide a description of each flare, the design and type, and its purpose.
 - b. Complete a review and include an analysis about how the entire facility and/or source specific operations can be improved to reduce the frequency of Startup, Shutdown and Maintenance (SSM) flaring events. If it is not possible to make any improvements to the facility or its processes to reduce SSM flaring events, then please explain why.
 - c. For additional information regarding potential alternative controls to flaring see the [New Mexico Methane Strategy website](#).
3. **Turbines**
- a. Please provide the following information for NO_x from Turbine Unit Numbers 35, 36, 37, 17, and 18.
 - b. Please provide a more thorough SCR evaluation. Include documentation of the spacing evaluation on SCR equipment and verify how that makes it impossible to install at the site. Are there other possibilities of installation designs and what would the potential emissions reductions be? If there are other restrictions or problems with potential SCR installation, please provide documentation.
 - c. Provide vendor specifications for the SoLoNO_x Dry Low NO_x (DLN) combustion technology to include the guaranteed NO_x emission rates used in cost analysis, the cost information, recommendations, and equipment specifications for the turbine control estimates.
 - d. How will upgrading the turbine combustors with SoLoNO_x affect the turbine capacities and the emission rates of NO_x and CO?
 - e. Provide the statement by the turbine vendor stating why water injection is not technically feasible for Solar Turbines.
 - f. Provide more detail of the GCP that have been implemented on the turbines, including routine inspections, maintenance and training schedules. It is unclear if these practices are fully optimized or conform to permit conditions alone.
 - g. Please consider and include a discussion on the feasibility of replacing the natural gas-fueled turbines with commercial electric powered turbines.
 - h. Provide the electronic spreadsheets used for control technology calculations.
 - i. Please include a discussion of the following control options to reduce NO_x emissions: catalytic combustion such as a XONON™ developed by Catalytic Combustion Systems, Incorporated (CESI), lean and staged combustion technology from turbine manufacturers other than Solar, and complete a four-factor analysis on technically feasible options. That Solar does not manufacturer a particular control method or turbine combustor is not grounds for eliminating an option for technical reasons.

Please note that per EPA's Guidance on Regional Haze State Implementation Plans for the Second Implementation Period (August 20, 2019), "as part of meeting the requirement of the Regional Haze Rule for the state to document the cost and engineering information on which the State is relying every source-specific cost estimate used to support an analysis of control measure must be documented in the SIP". If you feel that your supplemental information should be classified as confidential business information (CBI), it will need to be reviewed and approved as such by NMED and EPA. Submit CBI with the word 'confidential' included in the electronic file name and on each page of the document. Do not combine non-confidential business information and CBI in the same files. Also, the claimant must satisfy the conditions in 20.2.1.115.B(3)(a)-(d) NMAC when the CBI is submitted. Until NMED and EPA determines if the information qualifies as CBI, the information will not be disclosed to anyone other than those listed in 20.2.1.115 NMAC.

NMED respectfully requests that your company submit the additional information on four-factor analysis electronically as soon as possible to Mark Jones at mark.jones@state.nm.us and myself at kerwin.singleton@state.nm.us. Please contact NMED if you have questions about the additional information request. We encourage your questions in order to help expedite the technical analysis required under the Regional Haze Program. Staff would be happy to meet with you in person to discuss these requirements in more detail. Likewise, staff may further contact you with questions or require additional information during its review of your submittals.

Thank you for your assistance in this matter. If you have questions or need clarification, please contact me at (505) 476-4350, or Mark Jones at (505) 566-9746.

Sincerely,

Kerwin C. Singleton
Planning Section Chief