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December 23, 2019

Ms. Cynthia Klein
Targa Midstream Services
1000 Louisiana, Suite 4300
Houston, TX 77002

Sent by electronic mail to: cynthiaklein@targaresources.com

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

Dear Ms. Klein:

This letter requests additional information for the Monument Gas Processing Plant; Eunice Gas Processing Plant; and Saunders Gas Processing Plant Four-Factor Analysis reports that were received by the New Mexico Environment Department (NMED) Air Quality Bureau (AQB) on November 1st, 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.

Based on our initial review, the NMED requires additional information, analyses and clarifications on Targa's four-factor analyses as follows:

1. **Overarching (for all 3 facilities)**

   a. Please provide the electronic spreadsheets used to determine the costs of control technologies for all three facilities for all sources subject to the four-factor analysis.

   b. **Flaring:** Please provide the following information for the flares at the Targa facilities with emission limits of NO_X and/or SO_2 greater than 10 pounds per hour (pph) and equal to or greater than 5 tons per year (tpy): Monument Gas Processing Plant F-01, F-02, F-03; Eunice Gas Processing Plant F-01 and F-02; Saunders Gas Processing Plant F-01.
      i. If not already provided in the SSM Flaring Addendum submitted on December 13, 2019 for the Eunice and Monument gas plants, please provide a description of each flare and all of its purposes.
      ii. Provide the startup, shutdown, and maintenance plan required by 20.2.7.14 NMAC that was mentioned as the existing and only method and that is currently implemented to reduce SSM flaring emissions, including any equipment maintenance and training plans used to prevent outages. According to the December 13, 2019 submittal, there are no

other alternatives to reducing emissions other than that is required by 20.2.7.14 NMAC. If it is not possible to make any improvements to the facility or its processes to reduce SSM flaring events, then please explain why.

iii. List and describe all of the reasons that trigger each type of flaring event. This is to identify and clarify the causes to help find potential solutions to reduce flaring emissions.

iv. Include a discussion of any potential alternative control options or operational changes that could reduce flaring NO_X and/or SO_2 emissions, including but not limited to:

   a. infrastructure that allows recovering and re-routing or recirculating the gas within the facility or outside of the facility until an SSM event is over;
   b. sulfur absorbent technology used to remove sulfur from pipelines and other auxiliary equipment to reduce inlet or plant flaring SO_2 emissions;
   c. Gas Capture Plans with facilities located downstream and upstream similar to those required for producers to better synchronize upstream and downstream services with the Targa facilities;
   d. use of remote capture equipment;
   e. better infrastructure planning and changes to existing infrastructure that connects the downstream and upstream operations to ensure that there is adequately processing capacity to move produced gas to market.

v. For any technically feasible solutions, provide a four-factor analysis. For additional information regarding potential alternative controls to flaring see the New Mexico Methane Strategy.

c. Engines: Please provide the following information for all engines that were evaluated in the Four-Factor Analyses for NO_X:

i. Natural gas-fired two-stroke lean-burn (2SLB) engines from the three gas plants have widely varying emissions rates and control efficiencies. Please explain why there are such large differences for engines that are the same make, model, and horsepower.

ii. Targa states that some compressors that were previously powered by natural gas-fueled engines used at the Eunice Gas Processing Plant were replaced with compressors powered by commercial electric power. Please consider and include a discussion on the feasibility of replacing more natural gas-fueled engines with commercial electric powered compressors at Eunice and the other facilities.

iii. Consider and include a discussion of variations of Clean Burn Technology (CBT) used to reduce NO_X emissions that may be less expensive than the full CBT packages proposed. Please include cost and efficiencies in the analysis.

iv. Please provide vendor quotes that include the cost information, recommendations, and equipment specifications for the engine control cost estimates.

v. Provide the technical basis for the "historical precedent that installation of SCR on two-stroke lean-burn (2SLB) engines can result in significant technical complications, require deration of engines, and unreliable operation and post-retrofit" statement.

vi. Provide the basis for the operational and maintenance (O&M) costs used in the cost analyses.

vii. Explain why air-to-fuel ratio adjustments for 2SLB engines varies so much depending on the specific engine and typical loading (e.g., 5% to 30% reduction).

viii. Provide an explanation for the need to upgrade the power substations at the Monument Gas Processing Plant and the Eunice Gas Processing Plant to operate blowers for the proposed CBT.

ix. Typically, under the Regional Haze process, a time period of two to five (2 – 5) years is assumed to be reasonable for the installation of controls; therefore, an estimate of

seven (7) years to install CBT on the 2SLB engines at your facilities seems excessive. Please detail the reason for the long compliance times and whether there are ways to reduce compliance times and installation.

x. Please provide the details regarding Good Combustion Practices (GCP) and the routine maintenance schedule and procedures that are currently used to mitigate NO_X emissions and are proposed as a feasible control.

2. **Monument Gas Processing Plant**

   a. **Sour Gas Amine Treating Units / Flare:**

      i. Describe why the Amine Treating Unit / Flare emissions for 2016-2017 are approximately 2,000 tons SO_2. Was there a malfunction in the acid gas injection well (AGI) process? Describe the current emissions rate, current status of operations and why there are no further control options evaluated other than the AGI.

      ii. Describe how the addition of a redundant compressor will increase the control efficiency of the AGI system.

      iii. Are there additional ways of optimizing performance of the AGI system in addition to redundant compression?

3. **Eunice Gas Processing Plant**

   a. **Amine Unit Controls:** Include a discussion of alternative control methods, other than redundant acid gas injection (AGI) for amine units, such as sulfur recovery units (SRUs).

   b. **Engines:** For Engine Unit C-03, provide the origin of the 5.13 g/hp-hr NOx emission factor used in baseline emissions calculations instead of the performance test results of 14.192 g/hp-hr.

   c. **Steam Generating Boilers**: Units B-01 and B-02.

      i. Please provide details of the GCP and the associated routine maintenance schedule and procedures that are currently used to mitigate NO_X emissions and are proposed as a feasible control for the Boilers.

      ii. Provide vendor specifications that include the cost information, recommendations, technical feasibility/infeasibility basis, and equipment specifications for the boiler control estimates.

      iii. Consider and include a discussion of the feasibility of staged combustion techniques, peak flame temperature reduction, water/steam injection, fuel-induced recirculation (FIR), and natural gas reburning (NGR) to reduce NO_x emissions.

      iv. Supplement the technical analysis that eliminated selective catalytic reduction (SCR) as technically infeasible as an add-on NO_X control for the boilers. The reasons given in the analysis for eliminating SCR are that retrofitting SCR controls on boilers is difficult and affects the reliability of the boilers and references the EPA SCR fact sheet. The fact sheet states that retrofitting is difficult but mentions nothing about boiler reliability. The other reason that SCR was eliminated for technical reasons is that SCR takes significant electrical power that would require a significant upgrade to the power system. The cost of upgrading the electric system is not considered at the technical feasibility step.

      v. Why was natural gas reburn (NGR) not included in the discussion?

      vi. Provide a summary of the continuous emissions monitoring system (CEMS) data used to provide the emission factors for the boiler baseline calculations.

      vii. Please provide the basis for the total capital investment and annual O&M costs provided by Targa.

4. **Saunders Gas Plant**

   a. **Engines:** The analysis states that the emission factors for the baseline emissions calculations for the engines were based on performance tests. Typically, a performance test refers to an initial compliance test using EPA Reference Methods. The Department's records show that this was a periodic portable analyzer test, not what would be called a performance test. Were these the only tests conducted on these units during 2016, or were additional periodic portable analyzer tests conducted? If so, please provide test results of all portable analyzer tests conducted on these engines in 2016.

   b. **All Four-Stroke Rich-Burn (4SRB) Engines:** Table 3., Potential Control Options for 4SRB Recirculating Internal Combustion Engines (RICE) indicates that CBT is technically feasible for these engines, with a NO_X control efficiency of 10% - 40%; however, the narrative on the technical feasibility for this technology concludes that, for various reasons, Targa has determined that this method is infeasible for 4SRB engines. Please explain this discrepancy.

   c. **All Two-Stroke Lean-Burn (2SLB) Engines:** The estimated cost effectiveness for the installation and operation of CBT on the six (6) Cooper Bessemer GMVA-10 engines at the facility varies drastically from a low of $2,753.99/ton NO_X to a high of $277,724.45/ton NO_X based on performance tests (periodic portable analyzer tests) conducted in 2016. Has Targa conducted an evaluation of these units to determine why the emissions from these identical engines varies so greatly ((2.05 – 10.78 grams NO_X/hp-hr.)? If we assume that that the addition of CBT on unit C-01 is uneconomical at $277,724.45/ton NO_X reduced, the average the cost effectiveness of units C-02 through C-09 is $5,926.01 and would result in an estimated annual NO_X reduction of 279.65 tons. Would Targa be willing to reduce the allowable emission rate for unit C-01 to ensure continued low NO_X emissions from this unit?

   d. **Amine Treating Unit:**

      i. How efficient is the amine treating unit at removing H_2S and CO_2 from the gas stream? Is it technically feasible to add additional stages to the sulfur recovery unit to reduce the amount of sulfur compounds in the tail gas?

      ii. Similarly, as Targa had previously determined that the construction of an acid gas injection well is technically infeasible, is it feasible to have a redundant sulfur recovery unit in order to limit acid gas flaring during maintenance of the primary sulfur recovery unit?

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 Singleton

Digitally signed by Kerwin Singleton
Date: 2019.12.23 13:32:03 -07'00'

Kerwin C. Singleton
Planning Section Chief

Cc: Rebecca Woodell, Targa Midstream Services, rwoodell@targaresources.com
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