

US EPA ARCHIVE DOCUMENT



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

MAY 04 2012

Ms. Melanie Roberts
Environmental Manager
Targa Gas Processing LLC
1000 Louisiana Street, Suite 4300
Houston, TX 77002

Subject: Completeness Determination for the Targa Gas Processing Longhorn Gas Plant
Greenhouse Gas Prevention of Significant Deterioration (PSD) Permit Application

Dear Ms. Roberts:

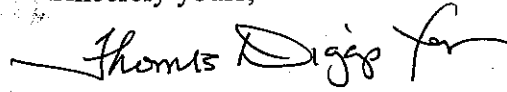
This letter is in response to your Greenhouse Gas (GHG) Prevention of Significant Deterioration (PSD) permit application dated February 17, 2012 and received in our office on February 23, 2012. After an initial review of your application we have determined that additional information is necessary in order to begin the processing of the permit. Enclosed is a list of the information required.

Upon the receipt of this information, the Environmental Protection Agency (EPA) will 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,

A handwritten signature in black ink, appearing to read "Carl E. Edlund". The signature is fluid and cursive, with a long horizontal stroke at the beginning.

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 Targa Gas Processing LLC Greenhouse Gas Permit Application Application dated February 17, 2012

General

1. There is no recommended monitoring, recordkeeping, and reporting for the CO₂ emissions. Does Targa have a preferred monitoring method for the glycol reboiler, regeneration heater, hot oil heater, regenerative thermal oxidizer, and flare?
2. Will the waste gas from the amine unit and the TEG dehydrator be monitored using online instrumentation to determine the composition and the high heat value?
3. What is the heat input rating for the three natural gas heaters (EPNS 1, 3, and 4)?
4. 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.

Emission Calculations

5. The emission calculations for the RTO and Flare, pages 16 - 18 in the permit application and the attached emissions data calculations, do not utilize the 40 CFR Part 98 Subpart W equations. Please provide a justification and explanation for use of these provided emission calculations or provide a supplement to your application using equations W-33, W-34, W-39A, or W-39B for GHG volumetric emissions; W-36 for GHG mass emissions for the RTO of CO₂ and CH₄; and use equation W-40 for calculating the N₂O mass emissions from the RTO. For the flare, please use equations, W-19, W-20, W-21, and W-40.

BACT Analysis

6. Annual ton per year emission limits, for each emission unit, are not considered BACT limits. 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.

7. The application provides a five-step BACT analysis for Carbon Capture and Sequestration (CCS) and concludes that the use of this technology is technically feasible for the amine units, and technically infeasible for all other emission sources. A cost analysis, Appendix E of the permit application, is provided for the amine and dehydrator units. Please provide a cost analysis for the equipment needed to implement CCS for the amine and dehydrator units. Also, we are requesting a comparison of the cost of CCS to the current project's annualized cost.
8. The current BACT analysis does not appear to provide adequate information in the five-step BACT analysis for the three natural gas heaters, amine treating unit, TEG dehydrator, regenerative thermal oxidizer, and flare. Step 2 does not provide detailed information on the energy efficiency measures. 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 this 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. For example, the energy efficiency of the heaters should be tied to a BACT limit. This limit could be established in pounds of CO₂ per MMBtu produced or some other appropriate efficiency measure. Targa 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, page 37 of the permit application, for the Amine Unit and TEG Dehydrator/Regenerative Thermal Oxidizer (RTO) shows that the RTO will fire natural gas during start-up and once the system has reached temperature, the burners will be turned off. What temperature will the RTO operate at? Will natural gas not be needed to supplement the waste gases to attain the proper Btu content to achieve the proper temperature for destruction of carbon compounds? Also, confirm the destruction and removal efficiency of the RTO. The BACT analysis, on page 38 of the permit application, states that the more expensive RTO was chosen over a standard oxidizer to

reduce fuel consumption and emission rates, giving a difference in efficiency from 65% to 98%. Please provide your preferred method to monitor this efficiency for compliance.

10. The BACT analyses for fugitive emissions, on pages 42 through 45 of the permit application, indicates that the TCEQ 28 VHP, LDAR program will be used, and states that this program will reduce the emissions up to 97% for most components, but only 30% for flanges and connectors. However, the five-step BACT analyses requires the top control for reducing fugitive emissions and leaks be considered. Was the TCEQ 28LAER LDAR program considered in the BACT analysis? The 28LAER LDAR program achieves up to 97% reduction of emissions from flanges and connectors. What analysis was performed with respect to possible equipment designs such as welded connectors instead of flanges, monitoring of leaks from flanges, and the latest technology devices for detecting fugitive emissions? Please further refine the BACT analyses for fugitive emissions.