

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

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

MAY 21 2012

Ms. Christina Harris
Compliance Assurance Manager
KM Liquids Terminals LLC
500 Dallas Street, Suite 1000
Houston, TX 77002

RE: Completeness Determination for KM Liquids Terminals LLC – Galena Park Terminal Application for Greenhouse Gas Prevention of Significant Deterioration Permit for the Phased Construction of a New Condensate Splitter

Dear Ms. Harris:

This letter is in response to your March 29, 2012 application to the Environmental Protection Agency (EPA) for a Greenhouse Gas Prevention of Significant Deterioration permit. EPA received this application on April 2, 2012. After our initial review of your application and all supporting information, we have determined that this application is incomplete (40 CFR 124) and additional information is required to consider it complete. Enclosed is a list of additional information required.

Upon receipt of the additional information, we will review it for completeness. If complete, we will issue a completeness determination on the technical information of your application. The information requested is necessary for EPA to develop a Statement of basis and rationale for the terms and conditions for a draft permits. 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 applications, an amendment or new applications may be required.

While not required for the 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. In addition, the EPA must undergo consultation pursuant to Section 106 of the National Historic Preservation Act. 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. 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. At this time, KM Liquids can request to assign specific representatives of KM Liquids and/or its environmental consultant to act as designated non-federal representatives to the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service if necessary, for purposes of Section 7 consultation.



If you have any questions concerning the review of your application, please contact Alfred C. "A.C." Dumaul of my staff at (214) 665-6613.

Sincerely yours,

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

Mr. Neal A. Nygaard
Manager, Houston Office
RPS Group, Plc.

ENCLOSURE

EPA Comments on KM Liquids Terminals LLC Greenhouse Gas Prevention of Significant Deterioration Permit Application dated March 29, 2012

General

- 1) EPA requests a detailed description of the distillation process as it pertains to the proposed condensate splitter. This should include a list of all the potential hydrocarbon streams and all the distillates produced. Please indicate which of the four heaters is capable of processing which hydrocarbon streams and the resulting products from the distillation. Additionally, indicate which distillates are considered “overhead product” and which are derived from the heavier condensate fraction. A table format is advisable.
- 2) The permit application does not provide any compliance monitoring for the new condensate splitter. EPA requests that KM Liquids propose a monitoring, recordkeeping, and reporting strategy to ensure enforceability of the BACT requirements pursuant to 40 CFR Section 52.21(n). For the four proposed heaters, Continuous Emission Monitoring System (CEMS) is the preferred method followed by parametric fuel monitoring with emission factors, etc.
- 3) The permit application provides an averaged heat input rating for the four natural gas-fired heaters. Please provide the maximum firing rate and maximum potential emissions.
- 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. The analysis shall address the impairment to visibility, soils and vegetation that would occur as a result of the source or modification and general commercial, residential, industrial and other growth associated with the source or modification. The analysis should address the increase in emissions from the source or project, not all sources in the area. In your analysis, please fully document all sources of information, underlying assumptions, and any agreements made as a part of the analysis.
- 5) Please provide the geographic coordinates of the facility, as it is not listed on page 5 of the application.
- 6) In Section 4 (page 18 of the permit application), it is stated “Note that the overhead product may also be utilized as a fuel supply for the heaters for up to 1% of the total heat input.” What are the determining factors for the “up to 1%” value? What is the composition of this 1% “overhead product” that will be used as a fuel supply?

- 7) In the Tanks section 5.1.3 (page 23 of the application), the applicant indicates that several tanks will be utilized for storage of the distillates, but the sizes of the tanks are never listed. The GHG application does provide specific emissions, but only as summary calculations, and there is no indication what particular VOC liquid is being used in the calculations. Please identify the size of each tank and what types of distillates will be stored in each of the tanks. If there are multiple types of distillates, then please list each of them for the individual tanks. The application discusses that VOC tank vapors are controlled by flares and the flaring will generate GHG emissions. Therefore, since GHG emissions are created from the combustion of VOC tank vapors, a BACT analysis is required for the tanks. Please be sure to incorporate into the tank BACT the factors that were considered when comparing internal floating roof (IFR), external floating roof (EFR) and fixed roof. Does the fixed roof have submerged fill? Please provide any other additional information of the tanks such as, did the applicant choose to have the tanks painted white or another color of high refractive index to reduce vapor production?
- 8) In the Marine Vessel and Tank Truck Loading Section of the application (page 24), it states "GHG emissions associated with the combustion of VOC loading emissions were estimated using the methods described in Section 4.1.2". This section does not exist in the application provided to EPA. Please explain the absence of Section 4.1.2 from your application or revise your application to include the information as discussed. There is also a discussion concerning VOC emissions, "The controlled VOC emissions for products with a vapor pressure greater than 0.5 psia utilizes a vapor collection system that is routed to a control device with a minimum destruction efficiency of 99%." Please provide general back information on this control device. What control device will be used? Is this combustion device existing equipment or will it be constructed as a result of this permit? What is the composition of the VOC being combusted/controlled?
- 9) The Maintenance, Startup, and Shutdown Activities (MSS) section states "The new condensate splitter will utilize the process flare described in Section 5.1.2 and portable vapor control equipment (i.e., vapor combustor units, engines, etc.) to control VOCs associated with MSS activities." (page 25) Clarification is needed on what is exactly being sent to the flare and when. When will portable vapor control equipment be used instead of the flare and why? Please explain more fully how what is being sent to the process flare is being monitored and recorded.

BACT Analysis

- 1) With regards to the phased construction portion of the project, page 1 states, "The proposed condensate splitter will consist of two trains which will each process 50,000 bbl/day of hydrocarbon condensate material to obtain products suitable for commercial use. Construction of the second 50,000 bbl/day train will commence within 18 months of the completion of the first 50,000 bbl/day train." Because this is a phased construction consisting of two separate phases, it is necessary to revise the permit application and provide two separate BACT analysis, one for the initial phase of construction and one for the final stage of construction.

- 2) Section 5, on page 22, states “Although the annual heater GHG cap is based on these emission factors, this low level is not necessarily expected to be achieved by individual combustion units on an annual basis because of typical variations in operating conditions. KMLT [we assume “KMLT” is KM Liquid Terminals. If not, please explain the relationship between “KMLT” and “KM Liquid Terminals”] only represents that the sum of the GHG emissions from the combustion units will comply with the annual cap based on management of heater operating rates and good combustion practices.”

The permit application proposes work practice standards as BACT for the heaters, and unless the applicant provides a determination to show that an emission limit is infeasible, the application must also provide a short-term pound per hour limitation for any of GHG pollutants for the proposed emission units. Please provide a short-term pound per hour limitation for any of GHG pollutants for the proposed emission limits. Be mindful that BACT is a short-term practically enforceable emission limit.

Additionally, in the TCEQ PSD application, the applicant provides a long-term LAER limit of NO_x emissions based on a NO_x limit of 0.006 lbs NO_x/mmBtu and a short term LAER limit of NO_x of 0.025 lbs NO_x/mmBtu, please provide a long-term GHG cap limit that corresponds with the long-term LAER limit for NO_x, as approved by TCEQ, and an individual short-term limit for GHG for each of the four proposed heaters. Please indicate your proposed emission limit in pounds of greenhouse gas produced per pound of product (lbs GHG/lbs product) or pounds of greenhouse gas produced per hour (lbs GHG/hr).

- 3) In the proposed Heater BACT Analysis (page 36 of the application), the cost analysis for CCS (Carbon Capture and Storage) does not provide a breakdown of the equipment costs and a comparison to the current project’s annualized cost. Also, provide a detailed cost analysis of cost per pound of pollutant CO_{2e} removed and include supporting calculations.
- 4) The application discusses several efficiency measures as a part of the Heater BACT. Please provide benchmarking and/or literature references or both discussing why these measures are considered “efficient” as a control technology compared to previous methodologies, technologies, or heaters. How are these measures considered “efficient” to be considered BACT? Additionally, the use of “overhead product” is not identified in the BACT analysis as an efficiency measure; however, it is possible to use the “overhead product” as fuel supply for the heaters. Would use of the “overhead product” as a fuel source be considered an efficiency measure and if so, please fully elaborate.
- 5) For Step 3 of the Heater BACT Analysis, ranking technologies is necessary to show which technology is deemed most effective in terms of reducing greenhouse gas emissions. Hence, an in-depth discussion of the relative effectiveness comparing each of the control technologies is required and cannot be conclusory.
- 6) In Step 4 of the Heater BACT Analysis, evaluation of effectiveness for each BACT must be thoroughly discussed and ranked accordingly.

- 7) For the Flare BACT (page 38 of the application), why was a flare chosen over other control devices such as a thermal oxidizer or a vapor recovery unit? These control options must be discussed in detail as a part of Step 3, Step 4 and Step 5 of the BACT determination.
- 8) For the Fugitive BACT (page 40 of the application), it is stated that the applicant will implement 28LAER for VOC. Will they utilize an enhanced 28LAER program to include monitoring for methane (CH₄)?
- 9) In the Marine Vessel and Tank Truck Loading BACT (page 41), it was identified that the use of a “vapor combustion unit (VCU)” is BACT. Please provide a technical discussion of the VCU? Does it have a destruction and removal efficiency (DRE) of 99% or higher? Similar to the Flare BACT, other control options such as a vapor recovery unit (VRU) exist and these options need to be discussed in full in Step 3, 4 and 5 of the BACT.

Emission Calculations

Please separate the CO₂e out to show what is CO₂ and CH₄, etc.

- Table A-1
 - What is the emission factor for CH₄?
 - What is the maximum firing rate of the heaters?
- Table A-2
 - Provided flare emissions from the pilot only. Is this an MSS flare? Or is it continuous use?
- Table B-4 first table titled “Emissions Summary” with the subtitle “Equipment MSS Vapors vented (See Table 9 for controlled emissions details)”. We were not able to locate Table 9 in the application.
- Table B-7. It is unclear of the purpose of Table B-7. There is only a brief mention of Table B-7 in Section 5.2 Maintenance, Startup, and Shutdown Emissions. Please clarify.