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

NOV 2 0 2013

Mr. Graham Bacon
Senior Vice President of Operations
Enterprise Products Operating LLC
P.O. Box 4324
Houston, Texas 77210

RE Completeness Determination for Enterprise Products Operating LLC
Greenhouse Gas Prevention of Significant Deterioration (PSD) Permit Application
Fractionation Units IX and X – Mont Belvieu Complex

Dear Mr. Bacon:

The EPA has reviewed your Greenhouse Gas (GHG) Prevention of Significant Deterioration (PSD) permit application for Enterprise Products Operating LLC that was received by the EPA on February 14, 2013, including supporting documentation, and determined that your application is incomplete at this time. A list of the information needed from you so that the EPA can continue its completeness review is enclosed (see Enclosure). Please notify us if a complete response is not possible by December 16, 2013.

The requested information is necessary for EPA to develop a Statement of Basis and Rationale for the terms and conditions for any proposed 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.

The EPA may not issue a final permit without 1) determining that there will be no effects on threatened or endangered species or their designated critical habitat, or 2) until it has completed consultation under Section 7(a)(2) 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 (NHPA) (16 USC § 470f). As a reminder, NHPA implementing regulations require that EPA provide information to the public with an opportunity for participation in the Section 106 process. 36 CFR § 800.2(d). If you have not already submitted the Biological Assessment and Cultural Resources Reports that you have agreed to prepare for EPA, we look forward to receiving these reports and continuing to work with you to comply with these statutes.

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

Sincerely yours,

Thomas Diggs
Associate Director
Air Program Branch

Enclosure

ENCLOSURE
EPA Information Request for Enterprise Products Operating LLC
Fractionation IX and X – Mont Belvieu Complex
Application for Greenhouse Gas Prevention of Significant Deterioration Permit

1. Will there be only one amine regeneration system providing treatment for both trains? Please update the process flow diagram to show the equipment that is a part of the amine regeneration system(s) and provide a description of the system(s). It is suggested that additional pages be created and provided to EPA to represent the process to avoid overcrowding and confusion. Are there any vessels and/or storage tanks in this system that vent to the flare? If so, since these vents are directed to the flare and the combustion of the vapors might generate GHG emissions, a BACT analysis should be developed for the vessels that belong to this system.

2. Please update the existing process flow diagram or provide a separate process flow diagram to depict the flare header with the vent streams directed to the flare (i.e., pump seals, analyzers, purges, fuel gas knockout pots, tanks, etc). Does the wastewater storage tank shown on the process flow diagram vent to the flare? If so, since this tank vent is directed to the flare and the combustion of the tank vapors might generate GHG emissions, a BACT analysis should be developed for the tanks to be installed for the project. Please incorporate into the tank BACT analysis the factors that were considered when comparing an internal floating roof (IFR), external floating roof (EFR), and fixed roof. Please provide any other additional information for the tank, including whether the applicant chose to have the tanks painted white or another color of high refractive index to reduce vapor production. Please do the same for all new storage tanks pertaining to this project, and make sure these tanks are represented on the process flow diagram and vents are represented on the flare header diagram. Also, if process analyzer vents are directed to the flare, the combustion of these process vents could potentially generate GHG emissions, and a BACT analysis should be developed for these analyzers. Please include the different designs and factors that were considered, the reasons for elimination for any design elements, and the design elements that were implemented to reduce or minimize vents to the flare. Please provide the supplemental calculations for the potential GHG emissions anticipated from the analyzers.

3. On page 4-2 of the permit application, it is stated that ancillary to "each" of the fractionators will be four tanks. Does this mean four tanks will be installed per fractionation train or four tanks per fractionation column (i.e., deethanizer, depropanizer and debutanizer)? The application further states that one tank in each "Frac" will store 85% diethanolamine (EPNs: SV23.002 and SV24.002), one will store 25% diethanolamine (EPNs: SV23.003 and SV24.003), and one to store wastewater (EPNs SV23.006 and SV24.006). Please ensure that all storage tanks have been listed along with the EPNs.

4. Will there be new construction of a cooling tower(s) associated with this project? If so, how many? Please update the process flow diagram to show the cooling tower(s). Will cooling towers

be a potential source for GHG emissions? If so, please include an associated emissions point number (EPN) for this GHG source and develop a BACT analysis for the cooling tower(s).

5. On page 4-1 of the permit application, it is stated that the propane heat pump circuit exchanges against the depropanizer side reboiler and two reboilers attached to the deethanizer column. Please provide supplemental information that explains the operation of the "propane heat pump circuit". Does this circuit involve use of a compressor? If so, what type of energy is used to drive the compressor? Is it natural gas or electric? If it is natural gas, are there any energy conservation mechanisms in place to minimize usage?

6. Beginning on page 4-1 of the permit application, it is stated that the bottoms from the depropanizer are fed to the debutanizer column, which fractionates it into an overhead stream containing mixed butanes (primarily normal butane and isobutane) and a bottoms gasoline stream containing pentanes and heavier components. This bottoms gasoline stream is routed to an existing gasoline treating facility. Will there be an increase in possible GHG emissions due to the increase in material from the new project that will be routed to the gasoline treating facility? Are there any affected or non-modified units in the existing gasoline treating facility where GHG emissions will increase as a result of the project that should be identified and GHG emissions accounted for in the annual GHG emissions limit?

7. On page 4-2 of the permit application, it states that hot oil used in the column reboilers is provided by gas-fired hot oil heaters. The same hot oil heaters also supply heat for the amine regeneration column used to sweeten the natural gas liquids (NGL) entering the unit. Please update the process flow diagram to show the hot oil supply to the amine regeneration column. Will the hot oil heaters supply hot oil (heat) to other process equipment? If so, please provide supplemental information to the process description and the process flow diagram to explain the other areas of the plant where the hot oil from the hot oil heaters will be used.

8. Please provide supplemental information to the process description that explains the operation of the dehydration unit. Please include the details to the regeneration of the dehydrators. Is wastewater produced during regeneration in the system? How is it removed?

9. Please provide your preferred ongoing compliance monitoring methods for all GHG emission units. Please let us know whether you are proposing to install CEMs due to other non-GHG monitoring requirements and whether that would include continuous CO2 monitoring.

10. On page 6-2 of the permit application, it is stated that the proposed new hot oil heaters are designed to achieve 89% thermal efficiency, and the regenerant heaters are designed to achieve 80% thermal efficiency. Also on page 6-9 of the permit application, it is stated that to demonstrate thermal efficiency of the hot oil heaters, the exhaust temperature, the fuel temperature, the ambient temperature, and excess oxygen will be monitored. Thermal efficiency will be calculated for each operating hour from these parameters. How does Enterprise propose to demonstrate the thermal efficiency of the regenerant heaters?

11. Is proposed BACT applicable at all times, including startup and shutdown? Please supplement the application by indicating whether your proposed BACT includes startup and shutdown emissions. If it does not include startup and shutdown, please provide a supplemental BACT determination(s) for startup and shutdown emissions for emission units at the facility.

12. BACT is a case-by-case determination. Please provide site-specific facility data to evaluate and eliminate carbon capture sequestration (CCS) from consideration as an add-on control for BACT. The suggested data that would be helpful includes detailed information on the quantity and concentration of CO2 that is in the flue gas stream and the necessary equipment for capture, transportation, and storage. In addition, the capital cost of construction, annual operation and maintenance costs for a CCS system would be helpful. Please discuss in detail any site specific safety or environmental impacts associated with such a CCS system. Also, please provide any additional technical and economic details for this project and the potential for installing a CCS system for recovering CO2 for enhanced oil recovery (EOR) and non-EOR geologic sequestration.

13. On page 6-3 of the permit application, it is stated that to reduce heater demand in the proposed process, you will use heat exchangers throughout the process to utilize the heat from product streams to preheat feed streams to the various process units. This practice reduces the energy required in the units used to cool the product streams. A portion of this energy reduction is in the form of purchased electricity. A reduction in purchased electricity reduces the amount of GHG emissions produced from the combustion of coal or natural gas at the power plant where the electricity is produced. The proposed plant design use of heat exchangers is a more effective method of minimizing GHG emissions through heat recovery than recovery of the residual heat in the hot oil heater exhaust. If possible, please quantify and provide the reduced amount of GHG emissions resulting from the reduction in purchased electricity that would be necessary if not for the proposed use of heat exchangers. If possible, please provide supplemental benchmark data that compares the GHG emission rates of the proposed project to a similar existing source that doesn't utilize the proposed heat exchangers.