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

JUL 25 2012

Mr. Joe Wolf
Plant Manager
ExxonMobil Corporation
13330 Hatcherville Road
P.O. Box 1653
Mont Belvieu, TX 77580-1653

RE: Application Completeness Determination for ExxonMobil Corporation
Greenhouse Gas Prevention of Significant Deterioration Permit
ExxonMobil Chemical Company – Mont Belvieu Plastics Plant (MBPP)

Dear Mr. Wolf:

This letter is in response to your application received by this office on May 22, 2012, for a Greenhouse Gas Prevention of Significant Deterioration permit. After our initial review of the application and supporting information, we have determined that this application is incomplete based on the requirements of 40 CFR 124 and additional information is required to begin the processing of the application. Enclosed is a list of the information required (see Enclosure).

Upon receipt of the additional information, the Environmental Protection Agency (EPA) will prepare a completeness determination. The requested information is necessary for EPA to develop a Statement of Basis and Rationale for the terms and conditions for the requisite 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.

Although not required as a part of our 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(16 USC 1536). In addition, the EPA must undergo consultation pursuant to Section 106 of the National Historic Preservation Act (16 USC 470f). 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.

If you have any questions concerning the review of your application, please contact Melanie Magee of my staff at (214) 665-7161.

Sincerely yours,

for Carl E. Edlund, P.E.
Director
Multimedia Planning and
Permitting Division

Enclosure

cc: Mr. Mike Wilson, P.E.
Director, Air Permits Division
Texas Commission on Environmental Quality

ENCLOSURE

EPA Completeness Comments
ExxonMobil Corporation
Application for Greenhouse Gas Prevention of Significant Deterioration Permit
ExxonMobil Chemical Company – Mont Belvieu Plastics Plant (MBPP)

1. On pages 2-1 and 2-2 of the permit application, it states that "no increase in GHG emissions are being requested" for the changes proposed at the Storage Tank, Cooling Tower and Miscellaneous Vent Emissions. Please provide the PSD applicability calculations for these units to support the "no increase" in GHG emissions request.

2. Please supplement the process flow diagram by identifying the emission control point for the GHG emissions for the Analyzer Vent (EPN: PEXANALZ).

3. Is the "Area Fugitives" (EPN: NAGFUGEM) emission source that is identified on the process flow diagram, the same emission source presented in Section 3, Table 3-1 as "Fugitives" (EPN: PEXFUGEM) and also in the emission calculations presented in Appendix A? If so, please correct the emission point number for consistency. If not, please provide supplemental technical data on the additional stream.

4. On page 2-1 of the permit application, it indicates "a new profile flare (EPN: RUFLARE61) will control high volume, high concentration (HVHC) streams from the reactors, and low volume, low concentration (LVLC) streams from the reactors a small percent of the time when the incinerator is down." Also, on page 2-2 of the permit application the emissions from the Feed Purification Bed Regeneration and Shutdown Activities will be directed to the flare.

   A. Please provide supplemental technical data to the BACT analysis that discusses the design and operation of the low profile flare, i.e., percent combustion efficiency, percent emission reduction, proposed monitoring and recordkeeping strategy, maintenance schedule, total vent flow measurement, etc. Will it be computer controlled? If so, will there be manual overrides? Please provide benchmark comparison data of new flare system to similar or existing sources.

   B. Was a flare gas recovery system considered for the proposed project? Please supplement the BACT analysis to support the elimination of a flare gas recovery system.

   C. Will there be an analyzer on the vent flow to the flare? Is the "Off Gas to Flare" analysis results presented in Appendix A, representative of all vent streams directed to the low profile flare?

   D. Is the "MSS" (EPN: NAGMSS) emission source identified on the process flow diagram the same emissions that are discussed in the "Planned Maintenance, Start-Up, and Shut down Activities" on page 2-2? In the discussion, it is indicated that these vent streams are directed to the low profile flare. Please supplement the process flow diagram to accurately depict where stream is vented. Are these emission calculations included in the vent flow to the flare? If not, please provide supplemental calculations for this vent stream.

E. On page 3-3 of the permit application, it indicates "Emissions from the analyzer vents (EPN: PEXANALZ) are based on the estimated gas flow through each analyzer, vapor density, vapor speciation, and a 98% destruction efficiency." Please provide supplemental information on where the vent analyzers will be installed and what vent stream will it be analyzing. Please clarify if the 98% destruction efficiency applies to the flare, incinerator or regenerative thermal oxidizer (RTO)?

5. On page 3-3 of the permit application, it is stated that "A service factor of 0.55 is applied to the annual average fuel gas heat input since the boilers are projected to operate at an annual average of 55% of the design capacity." Please provide the rationale that indicates operating these boilers at 55% capacity is energy efficient as BACT.

6. EPA notes the "MSS Engine" (EPN: PEXENGINE) presented in the emission calculations for this stream in Appendix A; however, it is not clear from the permit application what type of equipment is the "MSS Engine". Please provide supplemental technical data in the Process Description and the BACT Analysis sections with detailed information that includes, but not limited to, equipment type, fuel type, operating parameters, benchmark comparison of proposed equipment to similar sources, mode of operation, etc. Also, please identify the emission source on the process flow diagram.

7. On page 4-4 of the permit application, it states that "Incinerator efficiency will decrease over time; however, the rate of deterioration can be reduced by good operating and maintenance practices. Deterioration of incinerator efficiency results in higher heat rate, CO_2 emissions, and operating costs; in lower reliability; and in some cases, reduced output. Examples of good operating and maintenance practices include good air/fuel mixing in the combustion zone; sufficient residence time to completed combustion; proper fuel gas supply system operation in order to minimize fluctuations in fuel gas quality; good burner maintenance and operation; and overall excess oxygen levels high enough to safely complete combustion while maximizing thermal efficiency." Please address the following questions for the incinerator, RTO and the two boilers because the same "good operating and maintenance practices" are referenced in the BACT analysis for all of the proposed previously mentioned equipment.

   A. Please provide comparative benchmark data on the percent efficiency of the burners selected by the applicant compared to existing or similar sources. Please provide details concerning the preventive maintenance on burners, frequency and recordkeeping schedule. How often will burners be inspected? How will this be ensured? What recordkeeping requirements are you proposing? What will alert on-site personnel to problems?

   B. What will be the operating parameters utilized to ensure minimum excess air? Please include a discussion on how O_2 analyzers will be utilized at this proposed facility to determine optimum excess air to provide proper combustion.

   C. Please provide further discussion as to how good combustion efficiency will be ascertained from the incinerator, RTO and boilers operating parameters pertaining to, temperatures, pressures, and residence times. What is ExxonMobil's preferred monitoring method, recordkeeping requirements for this equipment (e.g., continuous or periodic)?

   D. Please submit a detailed description of the anticipated procedures that are proposed as part of the maintenance practices and include a proposed schedule for planned maintenance.

E. What will be ExxonMobil's method of monitoring and recordkeeping for the determination of fuel quality, i.e., continuous gas chromatograph, fuel meters, etc.

8. On page 4-4 of the permit application, it is indicated in the "Energy Efficient Design" section that "to maximize thermal efficiency, the incinerator will be equipped with heat recovery systems to produce an optimal amount of steam from waste heat for use throughout the plant. Specific technologies include: insulation of the incinerator to retain heat and improved process control."

   A. Please provide a comparison analysis of the "specific technologies" outlined for the incinerator that includes the anticipated increase in thermal efficiency compared to a similar source without the proposed thermal efficiency enhancements, (e.g., Design Feature: Heat Containment (Insulation), Improved Thermal Efficiency : 2%- 5%, etc).

   B. What operating parameters does ExxonMobil prefer to monitor to determine that the thermal efficiency in the plant is optimized, i.e., stack temperature, pressure, fuel usage, etc.?

   C. Provide any supporting data to substantiate operating and design improvements to the proposed "specific technologies" compared to the past operation and design, e.g., past energy consumed and what will be the difference compared to the new construction, comparative benchmark studies to similar operations. Please include any technical data that support your conclusions, as well as the associated decrease in GHG produced relative to heat input.

9. Beginning on page 4-5 of the permit application, the cost estimates provided for the Carbon Capture and Storage (CCS) appear to rely on the August 2010 report entitled "Report of the Interagency Task Force on Carbon Capture and Storage." BACT is a case-by-case determination. Please provide site-specific facility data to evaluate and eliminate CCS from consideration for the following new equipment: incinerator, RTO and the two boilers. This material should contain detailed information on the quantity and concentration of CO_2 that is in the waste stream and the equipment for capture, storage and transportation. Please include cost of construction, operation and maintenance, cost per pound of CO_2 removed by the technologies evaluated and include the feasibility and cost analysis for storage or transportation for these options. Please discuss in detail any site specific safety or environmental impacts associated with such a removal system.

10. On page 4-10 of the permit application, it is indicated that "energy efficiency is inherent in the operation of a RTO. Specific technologies include the following feed preheat, insulation of the RTO and improved process controls."

    A. Please provide a comparison analysis of the proposed RTO's energy efficiency to similar or existing sources as previously mentioned in comment 8A.

    B. Please include a discussion on the automation of the RTO feed preheat system and operating parameters that will be monitored to ensure optimal heat transfer.

    C. Please provide supplemental data that will discuss the operating control parameters, i.e., oxygen monitors, air flow monitors, etc. Include a discussion on the control strategy that Exxon proposes for these operating parameters and how this strategy will translate to decreased CO_2 production. If possible, include comparison data to similarly operated sources.

D. The RTO will control the residual VOC emissions from the powder hopper bag filter. On page 3-2 of the permit application, it is stated that "Annual emissions are based on 98% on-line reliability. When RTO is off-line, the vents will emit to atmosphere." Has this emission vent been considered in the GHG calculations? Please indicate the venting to atmosphere option on the process flow diagram for EPN: RUPK71.

11. On page 4-19 of the permit application, it states "the proposed project selects as-observed AVO as BACT for piping components in natural gas service and instrument LDAR for piping components in VOC service." Please supplement the 5-step BACT analysis with the LDAR programs that were evaluated for this project and a basis for the programs elimination. Please include the level of LDAR to be used.

12. Being mindful of EPA's PSD and Title V Permitting Guidance for GHG dated March, 2011 on page 17, which states the following:

> "The CAA and corresponding implementing regulations require that a permitting authority conduct a BACT analysis on a case-by-case basis, and the permitting authority must evaluate the amount of emissions reductions that each available emissions-reducing technology or technique would achieve, as well as the energy, environmental, economic and other costs associated with each technology or technique. Based on this assessment, the permitting authority must establish a numeric emissions limitation that reflects the maximum degree of reduction achievable for each pollutant subject to BACT through the application of the selected technology or technique. However, if the permitting authority determines that technical or economic limitations on the application of a measurement methodology would make a numerical emissions standard infeasible for one or more pollutants, it may establish design, equipment, work practices or operational standards to satisfy the BACT requirement."

Please propose output based emission limitations or efficiency based limits for all PSD emission sources that are practically enforceable. Please provide an analysis that substantiates any reasons for infeasibility of a numerical emission limitation. For the emission sources where numerical emission limitations are infeasible, please propose an operating work practice standard that can be practically enforceable.