From: "Hurst, Benjamin M" <benjamin.m.hurst@exxonmobil.com>
To: Erica LeDoux/R6/USEPA/US@EPA
Cc: Jeffrey Robinson/R6/USEPA/US@EPA, Bonnie Braganza/R6/USEPA/US@EPA, Melanie Magee/R6/USEPA/US@EPA, Suran Peiris/R6/USEPA/US@EPA, "Kovacs, Jeffrey K" <jeffrey.k.kovacs@exxonmobil.com>
Date: 11/14/2012 07:57 PM
Subject: RE: ExxonMobil Baytown Olefins Plant - Revised PFD

Erica,

Please find attached an updated process flow diagram (PFD) per your request. In order to further assist your completeness determination, I have provided responses to your items below (**blue, bold text**) and attached a revised process description as well.

Thank you for the opportunity to provide this supplemental information. I am available at your convenience to discuss or answer any additional questions. I can be reached at (281) 834-6110 or at benjamin.m.hurst@exxonmobil.com.

Thank you,

Benjamin M. Hurst
Baytown Olefins Plant
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Hi Ben,

I wanted to send you an email to summarize what we discussed Thursday. Last week EPA completed the review of the additional information received from Exxonmobil Baytown on October 18 in response to the determination letter that was sign June 29, 2012 for the Olefins project. The process flow diagram provided in your response requires more clarification.

The process flow diagram needs to closely follow the process description that is provided and identify all emission points that emit GHG emissions or have the potential to emit.
Response: The process flow diagram (PFD) has been updated to include all emission points that emit GHG emissions or the potential to emit GHG emissions.

Typically CO2 emissions are associated with combustion pollutants and CH4 pollutant is associated with VOC pollutants, therefore if ExxonMobil feels that such streams do not have GHG pollutants an explanation is required . For example, the quench tower is a direct contact exchanger and it is not clear from the block diagram which streams could be saturated with VOC and how VOCs will be removed from the cooling water that is recirculated to the cooling tower.
Response: Process streams in the proposed plant have no direct contact with cooling water except in the case of an unplanned leak. In the case of an unplanned leak, we do not expect GHG contamination of the cooling water (i.e. methane). The quench tower system is a closed water recirculation system separate from the open cooling water system. Please see the updated PFD.

Process (and safety relief) vents on equipment are routed to the flare system (save a few low pressure vents routed into the furnaces and the acetylene converter regeneration vent routed to the atmosphere) as shown on the attached PFD. These hydrocarbons are accounted for in the flare GHG emission calculations.

The application listed in the process description a wastewater collection and treatment steam (EPN:BIOX) to be used to separate hydrocarbons from the water. Also, storage tanks for slop oil, diesel fuel, wastewater, etc. The recent response that was received from ExxonMobil indicates the removal of this equipment. Please explain how with this material be treated , processed and stored.

Response: As discussed in our telephone conversation on Thursday, 11/8/2012, the process water will be treated in the existing wastewater treatment units and discharged through an authorized Baytown Refinery discharge point. Clean streams from sources such as the cooling tower blow down and water demin units will be discharged through a separate discharge.

The current format of combining equipment into one block is difficult to follow. It may be helpful to us if you were to pull out the equipment that you are discussing in the process description. This includes, but are not limited to the following: the stripper used to remove hydrocarbons from quench water , demethanizer, deethanizer, C2 splitter, etc. Please identify all feed, product, recycle and fuel streams.
Response: An updated PFD has been attached.

On the process flow diagram, please identify the elevated flare and the multi-point ground flare and all streams that are sent to each flare.
Response: As discussed above, the process (and safety relief) vents on equipment are routed to the flare system (save a few low pressure vents routed into the furnaces and the acetylene converter regeneration vent to the atmosphere). Routine continuous vents to the flare system are not practical to identify on a simplified PFD due to their number – each compressor seal, relief valve, analyzer vent, etc. All the numerous process vessels and towers operated in the sections outlined in the PFD are routed to the flare system during routine intermittent releases (such as shutdowns). These include the overheads from equipment such as the quench tower, deethanizer, demethanizer, acetylene converter, C2 splitter, etc. The hydrocarbons from these combined streams will be measured in the flare header and accounted for in the flare GHG emission calculations.

The process flow diagram should include a representation of the gas turbine with heat recovery steam generation system that will be modified to include a duct burner for incremental steam. Please identify on feeds and products to and from this piece of equipment
Response: An updated PFD has been attached.

Please clarify on the process flow diagram if the project is to include eight furnaces along with eight quench towers, i.e., does the process flow diagram represent eight trains?
Response: An updated PFD has been attached. There are eight furnaces and one recovery train.

Please include representations on the process flow diagram of the decoking equipment that is described in the process description and how it will tie in to the furnace equipment.
Response: An updated PFD has been attached.

During our phone call, I referred you to Ineos' process flow diagram on our website, another application similar to your process is BASF.
Response: Thank you. The updated PFD has been developed in consideration of the INEOS example.

After we receive your response, it may be best to have a conference call to clear this completeness review hurdle.
Response: I am gladly available at your convenience to discuss the updates. I can be reached at (281) 834-6110.

Thank you,

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