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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 26, 2024

MR COLE BILLEAUD
ENVIRONMENTAL ADVISOR
EXXON MOBIL CORPORATION
5000 BAYWAY DR
BAYTOWN TX 77520-2123

Re: Alternative Method of Compliance (AMOC) No. 183
Add Two BOP-2X Ethylene Production Unit Steam Cracking Furnaces
Exxon Mobil Chemical Baytown Olefins Plant
Regulated Entity Number: RN102212925
Customer Reference Number: CN600123939
Associated Permit Numbers: 3452, 102982, PSDTX302M2, and O1553

Dear Mr. Billeaud:

This correspondence is in response to Exxon Mobil Corporation's (Exxon's) August 30, 2024, request to add two furnaces to the current alternate case-specific NH_3 specification for furnaces at the Baytown Olefins Plant BOP-2X Ethylene Production Unit to comply with 30 Texas Administrative Code (TAC) § 117.310(c)(2)(B) during planned MSS activities.

Exxon was previously granted alternative ammonia (NH_3) limits for eight (8) steam cracking furnaces (EPNs BOPXXFURNACE, FINs XXAF01-ST, XXBF01-ST, XXCF01-ST, XXDF01-ST, XxEF01-ST, XXFF01-ST, XXGF01-ST and XXHF01-ST) which are equipped with selective catalytic reduction (SCR) to control NO_x . We understand Exxon requests to add a 9th furnace (EPN XXIF01-ST) at the BOP-2X Unit, which is designed and operated similar to the other 8 furnaces and will have corresponding NH_3 emission variations during planned MSS activities. Exxon is also requesting to add furnace EPN XHF01-ST for the BOPX Unit (Flexible Permit No. 3452), which is also controlled by an SCR with parallel design, operations, control and permit conditions.

These furnaces are permitted to account for furnace transitions between Hot Steam Standby, Decoking, Feed In, Feed Out, Start-up, Shutdown and/or normal operation, where flue gas composition and temperature at the SCR change rapidly. These changes may interrupt the SCR reaction and cause intermittent periods of NH_3 desorption from the catalyst or maldistribution of NO_x and NH_3 reactants in the flue gas, which in turn may result in elevated NO_x and/or NH_3 emissions. During these MSS transition periods, the emissions are continuously measured by continuous emission monitors (CEMS) and have shown compliance with the hourly mass limits (lb/hr) specified in the permit.

The collateral emissions of NH_3 are limited under § 117.310(c)(2)(B) to 10 ppmvd (corrected to 3% O_2) at all times, including normal production and planned maintenance, start-ups or shutdowns (MSS). Under §117.325, the rules allow for alternative case-specific emission limits to be established by the Executive Director after considering technological and economic circumstances of the individual unit and demonstration that the unit is meeting the lowest NO_x emission limitation capabilities.

The Texas Commission on Environmental Quality (TCEQ) Executive Director has made a final decision to approve Exxon's request to waive the concentration requirements of §117.310 during MSS transitions based on the technical limitations of the control device operation and the permit BACT evaluation. During these times, records will be kept to demonstrate compliance with the mass emission limits of the above-referenced permit.

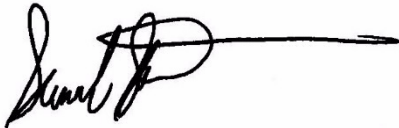
Re: Permit Numbers: 3452, 102982, PSDTX302M2, and O1553

This AMOC approval may supersede certain requirements or representations in Permit Nos. 3452, 102982, and PSDTX302M2. To ensure effective and consistent enforceability, we request that BOP incorporate this AMOC into the permit(s) through submittal of alteration(s) no later than 90 days after this approval.

This approval may also change applicable requirements for the site, which are identified in the site operating permit (SOP) O1553. The TCEQ recommends the submittal of a SOP administrative revision if any changes are necessary. Changes meeting the criteria for an administrative revision can be operated before issuance of the revision if a complete application is submitted to the TCEQ and this information is maintained with the SOP records at the site.

If you need further information or have any questions, please contact Ms. Anne Inman, P.E. at (512) 239-1276 or write to the Texas Commission on Environmental Quality, Office of Air, Air Permits Division, MC-163, P.O. Box 13087, Austin, Texas 78711-3087.

Sincerely,

A handwritten signature in black ink, appearing to read 'Samuel Short', followed by a long horizontal line extending to the right.

Samuel Short, Deputy Director
Air Permits Division
Office of Air
Texas Commission on Environmental Quality

cc: Director, Harris County, Pollution Control Services, Pasadena
Air Section Manager, Region 12 - Houston
Jesse E. Chacon, P.E., Manager, Operating Permits Section, Air Permits Division, OA: MC-163
Kristyn Campbell, Manager, Energy New Source Review Permits Section, Air Permits Division, OA: MC-163
Air Permits Section Chief, New Source Review Section (6PD-R), U.S. Environmental Protection Agency, Region 6, Dallas

Project Number: 379119