Pollution Control Project Standard Permit
Technical Review

Company	**Exxon Mobil Corporation**	Permit Number	**123967**
City	**Baytown**	Project Number	**374734**
County	**Chambers**	Regulated Entity Number	**RN102501020**
Project Type	**Amend**	Customer Reference Number	**CN600123939**
Project Reviewer	**John Ma**	Standard Permit No.	**6001 non-Rule**
Site Name	**ExxonMobil Chemical Mont Belvieu Plastics Plant**	Project Received Date	**June 4, 2024**

Project Overview

ExxonMobil Corporation (ExxonMobil) has submitted Form PI-1S to revise emissions under the Pollution Control Project standard permit. ExxonMobil is revising the standard permit registration to account for additional piping and instrumentation for providing flexibility of routing waste gases to flameless thermal oxidizer for destruction. There is no change proposed in this revision to the design of the Low Density Flameless Thermal Oxidizer (LDFTO), the LD polyethylene process, or how the LDFTO receives waste gas. There are no changes in allowable emission rates from LDFTO. The new piping fugitive components will be authorized under the fugitive emission point EPN MBPPFUGEM resulting in an increase of less than 0.01lb/hr and 0.01tpy. This project will not result in any net emission increases for the overall permit.

Emission Summary

Emission Point No.	Source Name	Permit	Pollutant	Authorized PCP Emissions	
				lbs/hr	tpy
LDFTO	Flameless Thermal Oxidizer	PCP No. 123967	NO_X	5.52	1.75
			CO	20.17	11.56
			VOC	1.43	1.66
			SO_2	0.08	0.17
			PM	0.09	0.11
			PM_{10}	0.09	0.11
			$PM_{2.5}$	0.09	0.11
MBPPFUGEM	Fugitives	NSR Permit No. 19016	VOC	0.03	0.14

Standard Permit Requirements - 30 TAC Chapter 116, Subchapter F Rules

General Requirement	
§116.614 Permit Fee: $ **900.00** Fee Reference No.: **582EA000612790**	
Is the following documentation included with this registration?	
1. The General Requirements Checklist demonstrating compliance with 30 TAC §§ 116.110 and 116.601-615	**Yes**
2. Process description	**Yes**
3. Project description	**Yes**
4. Descriptions of any equipment being installed	**Yes**
5. Emission calculations including the basis of the calculations	**Yes**
6. Emission increases and/or decrease associated with this project (quantified)	**Yes**
7. Description of efforts to minimize any collateral emissions or collateral increases	**Yes**
Are any requirements of §116.110 circumvented by: (1) artificially limiting feed or production rates below the maximum capacity of the project's equipment; (2) claiming a limited chemical list; or (3) dividing and registering a project in separate segments?	**No**
If YES, are the limits intended to allow the project to move forward while waiting for a permit or permit amendment that will allow full-scale operations, particularly when the project would not be economically feasible until fully authorized?	**N/A**

Standard Permit Requirement	
Will the project include replacement of the existing pollution control equipment and/or techniques?	**Yes**
If YES, is the new control technique at least as effective?	**Yes**

Will an increase in production capacity result from the installation of control equipment or the implementation of a control technique?	**No**
Does the project include installing a new production facility, reconstructing an existing production facility [as defined in 40 CFR §60.15(b)(1) and (c)], or completely replacing an existing production facility?	**No**
Without consideration of any other increases or decreases, will the project result in a significant net increase in emission of any criteria pollutant?	**No**
If YES, was site-wide netting performed for the contemporaneous period?	**N/A**
Does the net increase trigger PSD or nonattainment?	**No**
Are planned MSS emissions directly associated with the pollution control project included in this project?	**No**
If NO, discuss how the MSS emissions are currently authorized. Provide permit numbers, if applicable.	**NSR 19016 & 103048**
Is this project to allow the facility to come back into compliance with an enforceable limitation?	**No**
If YES, did the company provide the required justification?	**N/A**

Process Description/Review Summary

ExxonMobil Corporation (ExxonMobil) owns and operates a polyethylene plant in Mont Belvieu, Chambers County, known as the ExxonMobil Chemical Mont Belvieu Plastics Plant (MBPP). The MBPP includes facilities for one unit of high-density polyethylene (HDPE) and two units of low-density polyethylene (LDPE) production. The South Plant (one HDPE unit and one LDPE unit) is authorized under NSR Permit No. 19016. The North Plant (one LDPE unit) is authorized under NSR Permit No. 103048.

The ExxonMobil MBPP consists of three units: the LDPE plants (North Plant and South Plants), and the High Density Polyethylene Plant (HDPE). MBPP receives ethylene and hydrogen by pipeline, comonomer and inert condensing agents by rail and truck, and catalyst and additives by truck. Raw materials are purified and metered into the reactor lines, with polymerize ethylene, recover unreacted materials, incorporate the additives, and extrude the polymer into products. Polyethylene granules and pellets are stored for finishing, packaging, and blending in silos and loaded out by truck. Waste streams from the units are routed to the thermal oxidizers and flares for control.

The LDFTO receives a portion of the waste gas flows from the South Plant LDPE process unit, which are also controlled by the Low Density (LD) Elevated Flare (EPN: LDFLARE). The elevated flare continues to receive waste gas flows, but at reduced rates compared to historic operation due to the waste gas flows received by the LDFTO. With this project, the company is authorizing its low-pressure North Plant Elevated Flare along with the three existing North Plant (FTOs) to serve as a control option for the waste gas flows at the South Plant. All four FTOs have the same DRE of 99.99%. The North Elevated Flare has a similar DRE (99% for C2, C3, and 98% for C4+ compounds) when compared to the South Plant Elevated Flare (EPNs: LDFLARE). There is no change proposed in this revision to the design of the LDFTO, the LD polyethylene process, or how the LDFTO receives waste gas. There are also no changes to the initial impacts evaluation since there is a net decrease of emissions.

PSD/NNSR Applicability

The MBPP is an existing major source located in Chambers County. The actual emission increases, without accounting for project-related decreases, are summarized below. Project emission increases are below netting thresholds for all pollutants.

Pollutant	Project Emissions (tpy)	Netting Threshold (tpy)
PM	0.11	25 (PSD)
PM_{10}	0.11	15 (PSD)
$PM_{2.5}$	0.11	10 (PSD)
VOC	1.80	5 (NNSR)
NOx	4.75	5 (NNSR)
CO	11.56	100 (PSD)

SO_2	0.17	40 (PSD)

Compliance History Evaluation

A compliance history report was reviewed on:	**June 10, 2024**
Site rating & classification:	**2.66 / Satisfactory**
Company rating & classification:	**6.35 / Satisfactory**

Impacts Evaluation - 30 TAC 116.111(a)(2)(J)

Was modeling conducted?	**Yes**	Type of Modeling:	**SCREEN3**
Will GLC of any air contaminant cause violation of NAAQS?			**No**
Is this a sensitive location with respect to nuisance?			**No**
[§116.111(a)(2)(A)(ii)] Is the site within 3000 feet of any school?			**No**

Summary of Modeling Results

SCREEN3 modeling was provided to demonstrate NAAQS compliance for EPN MBPPFUGEM. The company does not need to perform any further impacts evaluation for the contaminant increases since the project fell out of the MERA at Step 3.

Compound	Short Term ESL ($\mu g/m^3$)	1-hour GLC_{max} ($\mu g/m^3$)	Long Term ESL ($\mu g/m^3$)	Annual GLC_{max} ($\mu g/m^3$)	Further analysis required
Ethylene	1400	6.02	34	0.513	No
Propane	Simple Asphyxiant	--	Simple Asphyxiant	--	No
Butene	820	0.042	1600	Not required*	No
Butane	66000	0.02	7200	Not required*	No
Isopentane	3800	6.27	7100	Not required*	No
Hexene	480	0.034	170	Not required*	No
Hexane	5300	0.035	200	<0.01	No
Other C6's	3400	0.56	340	Not required*	No
C8+	3500	0.003	350	Not required*	No
Tetrahydrofuran	210	<0.01	150	Not required*	No
Toluene	3500	0.02	1200	Not required*	No

*Contaminants highlighted have increases with an annual ESL less than 10% of the short term. No other annual analyses were necessary.

Required Changes to NSR Permit When Incorporated

Update MAERT and Special Conditions of NSR Permit Nos. 103048 and 19016 to incorporate the new control devices for the MBPP South Plant.

Recommendation Based on Representations

All conditions of Standard Permit satisfied? (Yes or No)	**Yes**
Final Action	**Issue PCP**
Other permit(s) or permits by rule affected by this action:	**Incorporate**
List permit and/or PBR number(s) and actions required or taken:	**NSR Permit Nos. 103048 & 19016**

	June 19, 2024		June 21, 2024
Project Reviewer	Date	Section Manager	Date

John Ma Michael Partee