

## Permit by Rule (PBR) Registration Technical Review

<b>Company:</b>	TotalEnergies Petrochemicals & Refining USA, Inc.	<b>Registration No.:</b>	176044
<b>Nearest City:</b>	Port Arthur	<b>Project No.:</b>	372625
<b>County:</b>	Jefferson	<b>Project Type:</b>	Initial
<b>Project Reviewer:</b>	Arianna Granado	<b>Regulated Entity No.:</b>	RN102457520
<b>Unit Name:</b>	Port Arthur Refinery	<b>Customer Reference No.:</b>	CN600582399
<b>PBR No(s).:</b>	106.261, 106.262	<b>Project Received Date:</b>	April 10, 2024
<b>Physical Location:</b>	7600 32nd St		

### Project Overview / Process Description

Total Energies Petrochemicals & Refining USA Inc. operates an integrated petroleum refinery. The Port Arthur Refinery (PAR) receives crude oil and then processes and refines it into various petrochemical products and commercial petroleum products such as gasoline, heating oil, aromatics, and coke. The PAR is currently authorized under NSR Permit No. 46936 and Title V Permit No. O1267.

Total Energies Petrochemicals & Refining USA Inc. has chosen to certify their annual notification for calendar year 2023 under §106.261. This registration will also authorize chemicals under §106.262. This registration includes the following fugitive projects:

### Project List

Project No.	Project Name	Distance to Nearest Receptor (feet):	Description
1	AREA2ALKY_9_2022_66	1,430	Installation of a Grinnell clamp and the replacement of the carbon steel section of piping to temporarily isolate a leak.
2	AREA2ALKY_9_2022_65	1,430	The flanged carbon steel section of piping was replaced with Alloy 20 piping to comply with Petrochemical and Refining Engineering Standard 60.11 pipe specifications.
3	AREA2ALKY_9_2023_10	1,430	Inlet piping was upgraded to Alloy 20 to match the inlet / outlet piping on the vessel. A bleeder and vent are included in this project.
4	AREA2ALKY_9_2023_63	1,430	The vent piping from FIN 08P-2A/B/C and the seal plot piping from FIN 08P-1B and 08P-5 are being changed to 1" piping to prevent plugging in the lines.
5	AREA3OMS_9_2023_144	1,850	The existing 20PSV-202 (Pressure Safety Valve) will be replaced with a new model PSV due to the existing PSV modeling being obsolete.
6	AREA3OMS_9_2022_87	269	The relocation of Air Operated Valves (AOVs) to the first flange by installing block valves to allow isolation of the tanks independent of each other.
7	AREA5UNIBON_9_2022_14	2,365	The removal of two dead leg sections. The liquid feed from 13V-7 (Cold Flash Drum) currently has two dead leg sections that will be removed to prevent possible stagnant product in the piping system that could potentially cause future leaks.
8	AREA5KNHT_9_2023_2	3,002	The removal of the impulse line for FIN 031PDT 0279 to allow the root valve that is leaking to be isolated and taken out of service.
9	Area5Unibon_9_2023_1	2,365	The replacement of a 3" gate valve located at FIN 13FV-170. The valve is no longer holding and requires replacement.
10	AREA2ALKY_9_2023_3	1,430	The piping system will be upgraded from carbon steel piping to Alloy 20 piping to prevent rapid pipe corrosion.

**\*Additional project descriptions are included in the registration file.**

This PBR will be incorporated into NSR Permit No. 46936 upon the next renewal or amendment.

# Permit by Rule (PBR) Registration

Registration No. 176044  
Page 2

Project No. 372625

## Permit by Rule Requirements - 30 TAC Chapter 106

### General Requirements

Registration Fee Reference No.:	Application fee: 700832 / 582EA000605951
Is this registration certified?	Yes
Is planned MSS included in the registration?	No
Are there affected NSR or Title V authorizations for the project?	Yes
<i>NSR and/or Title V authorizations: NSR Permit No. 46936; Title V Permit No. O1267</i>	
If there are affected Title V authorizations, is monitoring being submitted as part of this registration?	No
Are there any upstream or downstream affects associated with this registration?	No
Are associated upstream/downstream emissions either included in the registration OR within current permitted limits with no changes to underlying air authorizations for the applicable units regarding BACT, health and environmental impacts, or other representations.	NA
Are emissions for each PBR authorized facility less than the § 106.4(a)(1) limits?	Yes
Are total emissions from all sitewide PBR authorized facilities less than the § 106.4(a)(4) limits, OR has the site been subject to public notice requirements? <b>Site has been to Public Notice for NSR Permit No. 46936.</b>	Yes
Are there permit limits on using PBRs at the site?	No
Is the facility in compliance with all other applicable rules and regulations?	Yes
Does the registration include an appropriate PBR workbook, and has the workbook been verified?	Yes

### Federal Applicability

Does this project trigger a PSD or Nonattainment review?	No
Does the Major NSR applicability analysis include all associated upstream and/or downstream emissions?	NA
Are there any applicable standards under NSPS, NESHAP, or NESHAP for source categories (MACT)?	Yes
If Yes, list applicable subparts: <b>NSPS A, GGG, GGGa; MACT A, H, CC</b>	

## Permit by Rule Requirements - Compliance Demonstrations

### PBR 106.261/262 Facilities (Emission Limitations / Emission and Distance Limitations)

- The emission point(s) associated with the facilities or changes to facilities are located at least 100 ft (**Actual: 269 ft**) from the nearest off-site receptor.
- The total new or increase emissions will comply with the applicable hourly and annual emission limits as represented in the table below.
- N/A- No applicable chemicals handled in this registration.
- There are no changes to or addition of any pollution abatement equipment.
- Visible emissions to the atmosphere, from any point or fugitive source, do not exceed 5.0 percent opacity in any six-minute period.
- This registration does not authorize construction or changes to a facility authorized under another section of this chapter or under standard permit.

## Compliance History and Site Review

In accordance with 30 TAC Chapter 60, a compliance history report was reviewed on:		April 15, 2024
Site rating / classification:	<b>53.30 / Satisfactory</b>	Company rating / classification: <b>22.58 / Satisfactory</b>
Has any action occurred on the basis of the compliance history or rating?		No
Did the Regional Office provide site approval and confirm distances?		NA
Reviewed by:	<b>Ms. Arianna Granado</b>	Date: <b>April 15, 2024</b>

## Permit by Rule (PBR) Registration

Registration No. 176044  
Page 3

Project No. 372625

### 106.261(a)(2) Emissions

Project Name	Chemical	Emission Threshold (lb/hr)	Emission Threshold (tpy)	Hourly Emissions (lb/hr)	Annual Emissions (tpy)	Meets Threshold?
AREA2FCCU_9_2023_3	Butane	6	10	5.85E-04	2.56E-03	Yes
AREA2FCCU_9_2023_3	Ethylene	6	10	1.38E-04	6.03E-04	Yes
AREA2FCCU_9_2023_3	Propane	6	10	8.42E-04	3.69E-03	Yes
AREA2FCCU_9_2023_3	Propylene	6	10	1.87E-03	8.19E-03	Yes
AREA2FCCU_9_2023_3	Refinery Petroleum Fractions (except for pyrolysis naphthas and pyrolysis gasoline) containing less than ten volume percent benzene	6	10	4.28E-03	1.88E-02	Yes
AREA2FCCU_9_2023_32	Carbon Monoxide	6	10	1.72E-04	7.53E-04	Yes
AREA2FCCU_9_2023_32	Ethylene	6	10	4.07E-03	1.78E-02	Yes
AREA2FCCU_9_2023_32	Propane	6	10	1.34E-04	5.85E-04	Yes
AREA2FCCU_9_2023_32	Propylene	6	10	5.72E-04	2.50E-03	Yes
AREA2FCCU_9_2023_32	Refinery Petroleum Fractions (except for pyrolysis naphthas and pyrolysis gasoline) containing less than ten volume percent benzene	6	10	1.41E-04	6.18E-04	Yes

### 106.261(a)(3) Emissions

Project Name	Chemical	Emission Threshold (lb/hr)	Emission Threshold (tpy)	Hourly Emissions (lb/hr)	Annual Emissions (tpy)	Meets Threshold?
AREA2SATLIQUIDS_9_2023_8	Ethylbenzene	1	4.38	1.26E-03	5.51E-03	Yes
AREA2GHT_9_2023_11	Methylcyclohexane	1	4.38	2.98E-04	1.31E-03	Yes
AREA2GHT_9_2023_11	Heptane	1	4.38	2.42E-04	1.06E-03	Yes
AREA2GHT_9_2023_11	Octane	1	4.38	1.58E-04	6.93E-04	Yes
AREA2FCCU_9_2023_50	Xylene	1	4.38	8.53E-05	3.74E-04	Yes
AREA2FCCU_9_2023_3	Pentane	1	4.38	6.89E-05	3.02E-04	Yes
AREA2FCCU_9_2023_50	Pentane	1	4.38	1.09E-04	4.77E-04	Yes
AREA2GHT_9_2023_11	Pentane	1	4.38	3.62E-04	1.59E-03	Yes
AREA2GHT_9_2023_11	Xylene	1	4.38	2.30E-04	1.01E-03	Yes
AREA2SATLIQUIDS_9_2023_8	Heptane	1	4.38	1.37E-02	6.01E-02	Yes

### 106.262(a)(2) Emissions – Table 262

Project Name	Chemical	L Value (mg/m³)	K value (from distance)	E, maximum Hourly Emission Threshold (lb/hr)	Annual Emission Threshold (tpy)	Actual Hourly Increases (lb/hr)	Actual Annual Increase (tpy)	Meets Threshold?
AREA2A CU2_9_2023_2	Cumene	50	10.84	4.61E+00	5.00E+00	9.03E-05	3.95E-04	Yes
AREA30 MS_9_2023_1	Cumene	50	157.91	3.17E-01	1.39E+00	1.16E-04	5.06E-04	Yes
AREA2S ATLIQUI DS_9_2023_8	Hydrogen Sulfide	1.1	12.968	8.48E-02	3.72E-01	2.51E-03	1.10E-02	Yes
AREA2G	Hydrogen Sulfide	1.1	11	1.00E-01	4.40E-01	2.25E-04	9.87E-04	Yes

## Permit by Rule (PBR) Registration

Registration No. 176044

Project No. 372625

Page 4

HT_9_20 23_11								
AREA2A CU2_9_2 023_38	Hydrogen Sulfide	1.1	10.844	1.00E-01	4.40E-01	2.16E-03	9.45E-03	Yes
AREA2S ATLIQUI DS_9_20 23_8	Cumene	50	12.968	3.86E+00	5.00E+00	2.45E-04	1.07E-03	Yes
AREA2S ATLIQUI DS_9_20 23_8	Hydrogen Sulfide	1.1	12.968	8.00E-02	3.70E-01	2.51E-03	1.00E-02	Yes
AREA2A CU2_9_2 023_47	Cumene	50	10.844	1.90E-02	8.32E-02	6.81E-05	2.98E-04	Yes
AREA3O MS_9_2 022_99	Cumene	50	8	4.61E+00	5.00E+00	1.64E-04	7.18E-04	Yes
AREA3O MS_9_2 023_144	Cumene	50	17	2.94E+00	5.00E+00	1.24E-04	5.45E-04	Yes

### 106.262(a)(2) Emissions – 1997 ACGIH Guide

Project Name	Chemical	L Value (mg/m <sup>3</sup> )	K value (from distance)	E, maximum Hourly Emission Threshold (lb/hr)	Annual Emission Threshold (tpy)	Actual Hourly Increases (lb/hr)	Actual Annual Increase (tpy)	Meets Threshold?
AREA3O MS_9_2 023_1	Toluene	188	157.91	1.19E+00	5.00E+00	5.03E-05	2.20E-04	Yes
AREA5U NIBON_9_2022_14	Trimethyl benzene	123	11.81	6.00E+00	5.00E+00	5.37E-05	2.35E-04	Yes
AREA3LI QPROD PIPE_9_2022_6	Naphthalene	52	157.91	3.29E-01	1.44E+00	5.37E-05	2.35E-04	Yes
RIK-WO #153842 4	Hexane (n-Hexane)	176	10.844	6.00E+00	5.00E+00	6.45E-05	2.83E-04	Yes
AREA2F CCU_9_2023_50	Diethanolamine	2	10.724	1.86E-01	8.17E-01	1.56E-03	6.81E-03	Yes
AREA2F CCU_9_2023_50	Hexane (n-Hexane)	176	10.724	6.00E+00	5.00E+00	2.69E-04	1.18E-03	Yes
AREA2F CCU_9_2023_50	Naphthalene	52	10.724	4.85E+00	5.00E+00	6.74E-05	2.95E-04	Yes
AREA2F CCU_9_2023_50	Trimethyl benzene	123	10.724	6.00E+00	5.00E+00	3.01E-04	1.32E-03	Yes

# Permit by Rule (PBR) Registration

Registration No. 176044  
Page 5

Project No. 372625

AREA2G HT_9_20 23_11	Hexane (n-Hexane)	176	162.18	1.09E+00	4.75E+00	4.01E-04	1.76E-03	Yes
AREA2G HT_9_20 23_11	Toluene	188	162.18	1.16E+00	5.00E+00	2.98E-04	1.31E-03	Yes

## Total 106.261/262 Combined Emissions

	Total Hourly Emissions (lb/hr)	Total Annual Emissions (tpy)
<b>Total VOC Emissions:</b>	<b>1.50E+00</b>	<b>6.56E+00</b>
<b>Total CO Emissions:</b>	<b>2.55E-04</b>	<b>1.12E-03</b>
<b>Total H<sub>2</sub>S Emissions:</b>	<b>1.00E-02</b>	<b>5.00E-02</b>

\*Additional compounds and specific emission rates are included in the registration file.

## Emission Summary

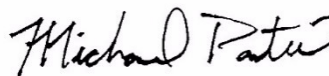
EPN / Emission Source	VOC		NOx		CO		PM <sub>10</sub>		PM <sub>2.5</sub>		SO <sub>2</sub>		H <sub>2</sub> S	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
28VHPFUG / 28VHP Fugitive Monitoring Program	1.34	5.85			<0.01	<0.01							0.01	0.04
05REFRMFUG / LAERCNQFUG Fugitive Monitoring Program	0.01	0.04			<0.01	<0.01							<0.01	<0.01
08CLEFUG / LAERCNAFUG Fugitive Monitoring	0.15	0.67			<0.01	<0.01							<0.01	0.01
<b>TOTAL EMISSIONS (TPY):</b>		<b>6.56</b>				<b>&lt;0.01</b>								<b>0.05</b>
<b>MAXIMUM OPERATING SCHEDULE:</b>	<b>Hours/Day</b>				<b>Days/Week</b>				<b>Weeks/Year</b>				<b>Hours/Year</b>	8,760



05/24/2024

Date

Ms. Arianna Granada  
Permit Reviewer  
Rule Registration Section



05/24/2024

Date

Michael Partee, Manager  
Rule Registrations Section  
Air Permits Division  
Section Manager