

February 25, 2025

Texas Commission on Environmental Quality Air Permits Initial Review Team MC-161 P.O. Box 13087 Austin, Texas 78711-3087

Subject: Registration for PBRs §106.261 and §106.262 ArcelorMittal Texas HBI LLC – La Quinta Plant Portland, San Patricio County, Texas CN604261545 / RN106597875

To the Agency:

ArcelorMittal Texas HBI LLC is submitting to the Texas Commission on Environmental Quality (TCEQ) an application to authorize emissions associated with fugitive volatile organic compound (VOC) emissions from natural gas pipeline under Permits by Rule (PBRs) §106.261 and §106.262.

If you have any questions regarding this submittal or require additional information, please feel free to contact me at (361) 229-0176 or via email at alejandro.medrano@arcelormittal.com or the Environmental Resources Management Southwest, Inc. (ERM) project manager Xu Liu at (469) 518-0284 or via email at xu.liu@erm.com.

Sincerely,

Alejandro Medrano Arispe Environmental Engineer ArcelorMittal Texas HBI LLC



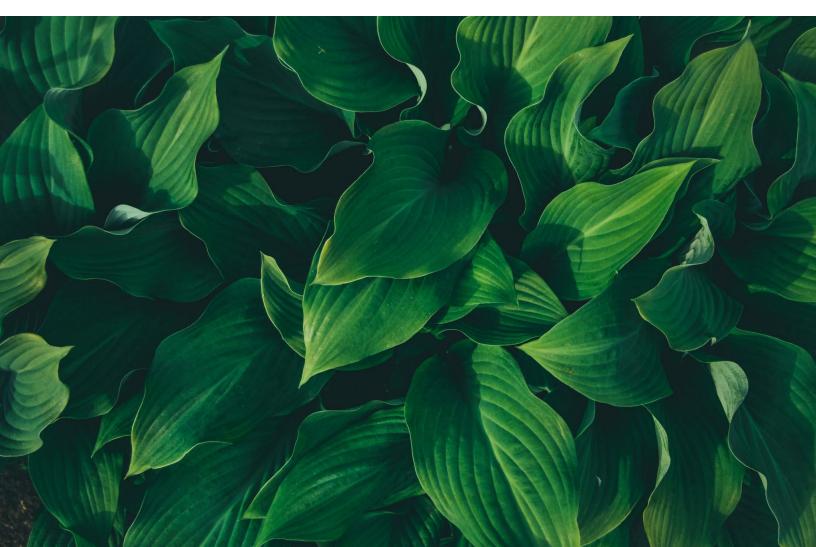
Permit by Rule Registration for §106.261 and §106.262:

ArcelorMittal Texas HBI LLC

PREPARED FOR ArcelorMittal Texas HBI LLC

DATE February 2025

REFERENCE 0766212



SIGNATURE PAGE

Permit by Rule Registration for §106.261 and §106.262

ArcelorMittal Texas HBI LLC 0766212

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CONTENTS

1.	INTRODUCTION	1
2.	REQUIRED REGISTRATION FORMS	2
3.	PROJECT DESCRIPTION	3
4.	DESCRIPTION OF EMISSIONS	4
5.	REGISTRATION FEE	5

APPENDIX A PBR §106.4 CHECKLIST APPENDIX B EMISSIONS CALCULATIONS



1. INTRODUCTION

ArcelorMittal Texas HBI LLC (ArcelorMittal) operates an Iron and Hot Briquetted Iron Production facility located in Portland, San Patricio County, Texas (La Quinta Plant). ArcelorMittal has been assigned the Texas Commission on Environmental Quality (TCEQ) Customer Reference Number (CN) CN604261545 and the La Quinta Plant has been assigned the TCEQ Regulated Entity Reference Number (RN) RN106597875. The La Quinta Plant is currently authorized under TCEQ New Source Review (NSR) Permit Number 108113, Federal Operating Permit Number 03903, Prevention of Significant Deterioration (PSD) Permit Number PSDTX1344 and various registered and unregistered Permits by Rule (PBRs).

With this PBR registration, ArcelorMittal proposes to authorize fugitive volatile organic compound (VOC) emissions from natural gas pipeline (EPN FUG_NG).

ArcelorMittal proposes to authorize the fugitive VOC emissions using the following PBRs:

- §106.261 -Facilities (Emissions Limitations); and
- §106.262 Facilities (Emissions and Distance Limitations).

Pursuant to the requirements of 30 TAC §106.4, the following information is being included in the file documentation:

- Registration forms including the PI-7 CERT and TCEQ Table 1(a) Emission Point Summary (section 2.0);
- Project description (section 3.0);
- Description of emissions (Section 4.0); and
- Registration fee (Section 5.0).

The checklist for PBR §106.4 is provided in Appendix A. Detailed emissions calculations are provided in Appendix B. The TCEQ §106.261 and §106.262 workbook is submitted electronically via the State of Texas Environmental Electronic Reporting System (STEERS).



2. REQUIRED REGISTRATION FORMS

This section contains the required PI-7 CERT and TCEQ Table 1(a) Emission Point Summary. The forms are included below.



Certification and Registration for Permits by Rule Form PI-7-CERT Page 1 Texas Commission on Environmental Quality

I. Registrant Information
A. Company or Other Legal Customer Name: ArcelorMittal Texas HBI LLC
Company Official Contact Information (Mr. Mrs. Ms. Ms. Other <u>Dr.</u>)
Name: Michael Spitz
Title: Executive Chief Technical Officer
Mailing Address: 2800 Kay Bailey Hutchison Rd
City: Portland
State: TX
ZIP Code: 78374
Phone: (361) 704-9000
Fax:
Email Address: Michael.spitz@arcelormittal.com
All PBR registration responses will be sent via email.
A. Technical Contact Information (Mr. Mrs. Mrs. Other)
Name: Alejandro Medrano Arispe
Title: Environmental Engineer
Company Name: ArcelorMittal Texas HBI LLC
Mailing Address: 2800 Kay Bailey Hutchison Rd
City: Portland
State: TX
ZIP Code: 78374
Phone Number: (361) 229-0176
Fax Number:
Email Address: alejandro.medrano@arcelormittal.com

Certification and Registration for Permits by Rule Form PI-7-CERT Page 2 Texas Commission on Environmental Quality

II. Facility and Site Information
A. Name and Type of Facility
Facility Name: La Quinta Plant
Facility Type: 🛛 Permanent 🗌 Temporary
For portable units, please provide the serial number of the equipment being authorized below.
Serial No(s):
B. Facility Location Information
Street Address: 2800 Kay Bailey Hutchison Road
If there is no street address, provide written driving directions to the site and provide the closest city or town, county, and ZIP code for the site (attach description if additional space is needed).
City: Portland
County: San Patricio
ZIP Code: 78374
C. TCEQ Core Data Form
Is the Core Data Form (TCEQ Form Number 10400) attached?
If "NO," provide customer reference number (CN) and regulated entity number (RN) below.
Customer Reference Number (CN): CN604261545
Regulated Entity Number (RN): RN106597875
D. TCEQ Account Identification Number (if known):
E. Type of Action
🖾 Initial Application 🗌 Change to Registration
For Change to Registration provide the Registration Number:
F. PBR number(s) claimed under 30 TAC Chapter 106
(List all the individual rule number(s) that are being claimed.)
106.261
106.262

Certification and Registration for Permits by Rule Form PI-7-CERT Page 3 Texas Commission on Environmental Quality

II. Facility and Site Information (continued)				
G. Historical Standard Exemption or PBR				
Are you claiming a historical standard exemption or PBR?	S 🖾 NO			
If "YES," enter rule number(s) and associated effective date in the spaces provided below.				
Rule Number: Effective Date:				
Rule Number: Effective Date:				
H. Previous Standard Exemption or PBR Registration Number				
Is this authorization for a change to an existing facility previously authorized under a standard exemption or PBR?	S 🖂 NO			
If "YES," enter previous standard exemption number(s) and PBR registration number(s) and associa effective dates in the spaces provided below.	ited			
Standard Exemption and PBR Registration Number:				
Effective Date:				
I. Other Facilities at this Site Authorized by Standard Exemption, PBR, or Standard Permit				
Are there any other facilities at this site that are authorized by an Air Standard Exemption, XE PBR, or Standard Permit?	S 🗌 NO			
If "YES," enter standard exemption number(s), PBR registration number(s), and Standard Permit reg number(s), and associated effective date in the spaces provided below.	gistration			
Standard Exemption, PBR Registration, and Standard Permit Registration Number(s): 134619, 1470 150444, 157588, 166205)82,			
Effective Date: 01/23/2020, 2/12/2025, 03/13/2018, 09/03/2019, 09/27/2021				
J. Other Air Preconstruction Permits				
Are there any other air preconstruction permits at this site? $igsquare$ YE	S 🗌 NO			
If "YES," enter permit number(s) in the spaces provided below.				
108113, PSDTX1344, GHGPSDTX43				
K. Affected Air Preconstruction Permits				
Does the PBR being claimed directly affect any permitted facility?	S 🛛 NO			

Certification and Registration for Permits by Rule Form PI-7-CERT Page 4 Texas Commission on Environmental Quality

II.	Facility and Site Information	on (continued)			
If "۲	If "YES," enter the permit number(s) in the spaces provided below.				
L.	Federal Operating Permit (F	OP) Requirements (30 TAC Chapter 1	22 Applicability)		
1.	Is this facility located at a sit obtain an FOP pursuant to 3		X YES 🗌 NO 🗌 To	Be Determined	
lf th	e site currently has an existing	FOP, enter the permit number: O390	3		
	eck the requirements of 30 TA0 eck all that apply)	C Chapter 122 that will be triggered if t	his certification is ac	cepted.	
	nitial Application for a FOP	Significant Revision for an SOP	Minor Revi	sion for an SOP	
\bowtie	Operational Flexibility/Off Pern	nit Notification for an SOP	Revision fo	or a GOP	
	To be Determined	None			
2.	Identify the type(s) of FOP is (check all that apply)	ssued and/or FOP application(s) subm	itted/pending for the	site.	
\square	SOP	GOP GOP Application/revis	sion (submitted or un	der APD review)	
	N/A	SOP application/revision (subm	itted or under APD re	eview)	
III.	Fee Information (See Secti online.)	on VII. for address to send fee or go to	o <u>www.tceq.texas.gov</u>	<mark>i/epay</mark> to pay	
Α.	Fee Requirements				
ls a	fee required per Title 30 TAC	§ 106.50?		XES 🗌 NO	
lf "I	NO," specify the exception. The	ere are three exceptions to paying a P	BR fee. (<i>check all tha</i>	nt apply)	
1.	Registration is solely to esta	blish a federally enforceable emission	limit.		
2.	5	nths of an initial PBR review, and it is ninistrative changes, or other allowed	Changes.		
3.	Registration is for a remedia	tion project (30 TAC § 106.533).			
В.	Fee Amount				
1.	A \$100 fee is required if any	of the answers in III.B.1 are "YES."			
Thi	s business has less than 100 e	mployees.		🗌 YES 🖾 NO	
Thi	s business has less than \$6 mi	llion dollars in annual gross receipts.		🗌 YES 🖾 NO	
Thi	s registration is submitted by a	governmental entity with a population	of less than 10,000.	🗌 YES 🔀 NO	
Thi	s registration is submitted by a	non-profit organization.		🗌 YES 🖾 NO	

Certification and Registration for Permits by Rule Form PI-7-CERT Page 5 Texas Commission on Environmental Quality

III.	Fee Information (See Section VII. for address to send fee or go to <u>www.tceq.texas.qo</u> online.) (continued)	<u>v/epay</u> to pay		
2.	A \$450 fee is required for all other registrations			
А.	Payment Information			
Cheo	ck/money order/transaction or voucher number: STEERS			
Indiv	idual or company name on check:			
Fee	Amount: \$450			
Was	the fee paid online?	🛛 YES 🗌 NO		
IV. Technical Information Including State aAnd Federal Regulatory Requirements Check the appropriate box to indicate what is included in your submittal. NOTE: Any technical or essential information needed to confirm that facilities are meeting the requirements of the PBR must be provided. Not providing key information could result in a deficiency of the project.				
А.	PBR requirements (Checklists are optional; however, your review will go faster if you p checklists.)	rovide applicable		
Did y	you demonstrate that the general requirements in 30 TAC § 106.4 are met?	🖾 YES 🗌 NO		
Did y	you demonstrate that the individual requirements of the specific PBR are met?	🛛 YES 🗌 NO		
В	Confidential Information Included (If confidential information is submitted with this registration, all confidential pages must be properly marked "CONFIDENTIAL.")	🗌 YES 🖾 NO		
C.	Process Flow Diagram:	🗌 YES 🖾 NO		
D.	Process Description:	🛛 YES 🗌 NO		
E.	Maximum Emissions Data and Calculations:	🖾 YES 🗌 NO		
Note: If the facilities listed in this registration are subject to the Mass Emissions Cap & Trade program under 30 TAC Chapter 101, Subchapter H, Division 3, the owner/operator of these facilities must possess NO _x allowances equivalent to the actual NO _x , emissions from these facilities.				
F.	Is this certification being submitted to certify the emissions for the entire site?	🗌 YES 🖾 NO		
lf "N	O," include a summary of the specific facilities and emissions being certified.			
G.	Table 1(a) (Form 10153) Emission Point Summary:	🛛 YES 🗌 NO		
H.	Distances from Property Line and Nearest Off-Property Structure			
Dista	ance from this facility's emission release point to the nearest property line:	>100 feet		
Dista	ance from this facility's emission release point to the nearest off-property structure:	>100 feet		

Certification and Registration for Permits by Rule Form PI-7-CERT Page 6 Texas Commission on Environmental Quality

IV. Technical Information Including State and Federal Regulatory Requirements Check the appropriate box to indicate what is included in your submittal. NOTE: Any technical or essential information needed to confirm that facilities are meeting the requirements of the PBR must be provided. Not providing key information could result in a deficiency of the project.

I. Project Status

Has the company implemented the project or waiting on a response from TCEQ?

⊠ Implemented □ Waiting

J. Projected Start of Construction and Projected Start of Operation Dates:

Projected Start of Construction (provide date): Upon PBR approval

Projected Start of Operation (provide date): Upon PBR approval

V. Delinquent Fees

This form **will not be processed** until all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ is paid in accordance with the Delinquent Fee and Penalty Protocol. For more information regarding Delinquent Fees and Penalties, go to the TCEQ website at: www.tceq.texas.gov/agency/financial/fees/delin/index.html.

VI. Signature For Registration and Certification

The signature below confirms that I have knowledge of the facts included in this application and that these facts are true and correct to the best of my knowledge and belief. I further state that to the best of my knowledge and belief, the project for which this application is made will not in any way violate any provision of the Texas Water Code (TWC), Chapter 7; the Texas Health and Safety Code, Chapter 382, the Texas Clean Air Act (TCAA); the air quality rules of the Texas Commission on Environmental Quality; or any local governmental ordinance or resolution enacted pursuant to the TCAA. I further state that I understand my signature indicates that this application meets all applicable nonattainment, prevention of significant deterioration, or major source of hazardous air pollutant permitting requirements. The signature further signifies awareness that intentionally or knowingly making or causing to be made false material statements or representations in the application is a criminal offense subject to criminal penalties.

Name (printed):

Signature (original signature required)

Date:

Certification and Registration for Permits by Rule Form PI-7-CERT Page 7 **Texas Commission on Environmental Quality**

VII. Submitting Copies of the Certification and Registration

Copies must be sent as listed below. Processing delays may occur if copies are not sent as noted.

Who	Where	What
Air Permits Initial Review Team (APIRT)	Regular, Certified, Priority Mail MC 161, P.O. Box 13087 Austin, Texas 78711-3087 Hand Delivery, Overnight Mail MC 161, 12100 Park 35 Circle, Building C, Third Floor Austin, Texas 78753	Originals Form PI-7-CERT, Core Data Form, and all attachments. Not required if using ePermits ¹ .
Revenue Section, TCEQ	Regular, Certified, Priority Mail MC 214, P.O. Box 13088 Austin, Texas 78711-3088 Hand Delivery, Overnight Mail MC 214, 12100 Park 35 Circle, Building A, Third Floor Austin, Texas 78753	Original Money Order or Check, Copy of Form PI-7-CERT, and Core Data Form. Not required if fee was paid using ePay ² .
Appropriate TCEQ Regional Office	To find your Regional Office address, go to the TCEQ website at <u>www.tceq.texas.gov/agency/directory/region</u> , or call (512) 239-1250.	Copy of Form PI-7-CERT, Core Data Form, and all attachments. Not required if using ePermits ¹
Appropriate Local Air Pollution Control Program(s)	To Find your local or Regional Air Pollution Control Programs go to the TCEQ, APD website at <u>www.tceq.texas.gov/permitting/air/local_programs.html</u> , or call (512)-239-1250	Copy of Form PI-7-CERT, Core Data Form, and all attachments.

¹ ePermits located at <u>www3.tceq.texas.gov/steers/</u>

² ePay located at <u>www.tceq.texas.gov/epay</u> TCEQ-20182 (APD-ID177v1.0, revised 12/22) PI-7-CERT

This form is for use by facilities subject to air quality permit requirements and may be revised periodically.



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Table 1(a) Emission Point Summary

Date:	February 2025	Permit No.:	TBD		RN106597875
Area Name:	La Quinta Plant			Customer Reference No.:	CN604261545

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

AIR CONTAMINANT DATA					
1. Emission Point			2. Component or Air Contaminant Name	3. Air Contaminant Emission Rate	
(A) EPN	(B) FIN	(C) NAME		(A) Pound Per Hour	(B) TPY
FUG NG	FUG NG	Natural Gas Fugitives	VOC	< 0.01	< 0.01

EPN = Emission Point Number

FIN = Facility Identification Number

3. PROJECT DESCRIPTION

ArcelorMittal proposes to authorize fugitive components (valves and flanges) associated with a natural gas pipeline (Facility Identification Number [FIN]: FUG_NG; Emission Point Number [EPN]: FUG_NG). Emissions from these fugitive components will be vented directly to the atmosphere.



4. DESCRIPTION OF EMISSIONS

Emissions associated with this project are from valves and flanges in gas service (FIN: FUG_NG; EPN: FUG_NG). Emission factors used are "SOCMI without ethylene factors" taken from the TCEQ technical guidance package for Equipment Leak Fugitives, APDG 6422v2, Revised 06/2018.¹ A summary of maximum potential emissions can be found in Table 1(a). Detailed emissions calculations are included in Appendix B.

¹ <u>https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/NewSourceReview/fugitive-guidance.pdf</u>



5. REGISTRATION FEE

The registration fee is a payment of \$450.00. The registration fee has been submitted online via STEERS.





APPENDIX A PBR §106.4 CHECKLIST

Teams\OPC\0766212\DM\32717H(PBR Report)

The following checklist was developed by the Texas Commission on Environmental Quality (TCEQ), **Air Permits Division**, to assist applicants in determining whether or not a facility meets all of the applicable requirements. Before claiming a specific Permit by Rule (PBR), a facility must first meet all of the requirements of **Title 30 Texas Administrative Code § 106.4** (30 TAC § 106.4), "Requirements for Permitting by Rule." Only then can the applicant proceed with addressing requirements of the specific Permit by Rule being claimed.

The use of this checklist is not mandatory; however, it is the responsibility of each applicant to show how a facility being claimed under a PBR meets the general requirements of 30 TAC § 106.4 and also the specific requirements of the PBR being claimed. If all PBR requirements cannot be met, a facility will not be allowed to operate under the PBR and an application for a construction permit may be required under 30 TAC § 116.110(a).

Registration of a facility under a PBR can be performed by completing **Form PI-7** (Registration for Permits by Rule) or **Form PI-7-CERT** (Certification and Registration for Permits by Rule). The appropriate checklist should accompany the registration form. Check the most appropriate answer and include any additional information in the spaces provided. If additional space is needed, please include an extra page and reference the question number. The PBR forms, tables, checklists, and guidance documents are available from the TCEQ, Air Permits Division website at: www.tceq.texas.gov/permitting/air/nav/air_pbr.html.

1. 30 TAC § 106.4(a)(1) and (4): Emission Limits	Answer			
List emissions in tpy for each facility (add additional pages or table if needed):				
Are the SO ₂ , PM ₁₀ , VOC, or other air contaminant emissions claimed for each facility in this PBR submittal less than 25 tpy?	🛛 YES 🗌 NO			
Are the NO_x and CO emissions claimed for each facility in this PBR submittal less than 250 tpy?	⊠ YES □ NO			
If the answer to both is "Yes," continue to the question below. If the answer to either question is " <i>claimed</i> .	No," a PBR cannot be			
Has any facility at the property had public notice and opportunity for comment under 30 TAC Section 116 for a regular permit or permit renewal? (This does not include public notice for voluntary emission reduction permits, grandfathered existing facility permits, or federal operating permits.)	⊠ YES 🗌 NO			
If "Yes," skip to Section 2. If "No," continue to the questions below.				
If the site has had no public notice, please answer the following:				
Are the SO ₂ , PM ₁₀ , VOC, or other emissions claimed for all facilities in this PBR submittal less than 25 tpy?	□ YES □ NO			
Are the NO _x and CO emissions claimed for all facilities in this PBR submittal less than 250 tpy?				
If the answer to both questions is "Yes," continue to Section 2.				
If the answer to either question is "No," a PBR cannot be claimed . A permit will be required under Chapter 116.				

2. 30 TAC § 106.4(a)(2): Nonattainment Check	Answer		
Are the facilities to be claimed under this PBR located in a designated ozone nonattainment county?	🗌 YES 🖾 NO		
If "Yes," please indicate which county by checking the appropriate box to the right.			
(Moderate) - Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller counties:	HGB		
(Moderate) - Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise counties:	DFW		
If "Yes," to any of the above, continue to the next question. If "No," continue to Section 3.			
Does this project trigger a nonattainment review?	YES NO		
Is the project's potential to emit (PTE) for emissions of VOC or NOx increasing by 100 tpy or more?	□ YES □ NO		
PTE is the maximum capacity of a stationary source to emit any air pollutant under its worst-case operational design unless limited by a permit, rules, or made federally enforceable by a certificati			
Is the site an existing major nonattainment site and are the emissions of VOC or NO_x increasing by 40 tpy or more?	YES NO		
If needed, attach contemporaneous netting calculations per nonattainment guidance.			
Additional information can be found at: <u>www.tceq.texas.gov/permitting/air/forms/newsourcereview/tables/nsr_table8.html</u> and <u>www.tceq.texas.gov/permitting/air/nav/air_docs_newsource.html</u>			
If "Yes," to any of the above, the project is a major source or a major modification and a PBR ma Nonattainment Permit review must be completed to authorize this project. If "No," continue to Sec			
3. 30 TAC § 106.4(a)(3): Prevention of Significant Deterioration (PSD) check			
Does this project trigger a review under PSD rules?			
To determine the answer, review the information below:			
Are emissions of any regulated criteria pollutant increasing by 100 tpy of any criteria pollutant at a named source?	🗌 YES 🖾 NO		
Are emissions of any criteria pollutant increasing by 250 tpy of any criteria pollutant at an unnamed source?	🗌 YES 🖾 NO		
Are emissions increasing above significance levels at an existing major site?	☐ YES ⊠ NO		
PSD information can be found at: <u>www.tceq.texas.gov/assets/public/permitting/air/Forms/NewSourceReview/Tables/10173tbl.pdf</u> and <u>www.tceq.texas.gov/permitting/air/nav/air_docs_newsource.html</u>			
If "Yes," to any of the above, a PBR may not be used . A PSD Permit review must be completed to authorize the project.			
If "No," continue to Section 4.			

4. 30 TAC § 106.4(a)(6): Federal Requirements	Answer			
Will all facilities under this PBR meet applicable requirements of Title 40 Code of Federal Regulations (40 CFR) Part 60, New Source Performance Standards (NSPS)?	🗌 YES 🗌 NO 🖾 NA			
If "Yes," which Subparts are applicable? <i>(answer below.)</i>				
Will all facilities under this PBR meet applicable requirements of 40 CFR Part 63, Hazardous Air Pollutants Maximum Achievable Control Technology (MACT) standards?	🗌 YES 🗌 NO 🖾 NA			
If "Yes," which Subparts are applicable? <i>(answer below.)</i>				
Will all facilities under this PBR meet applicable requirements of 40 CFR Part 61, National Emissions Standards for Hazardous Air Pollutants (NESHAPs)?	🗌 YES 🗌 NO 🖾 NA			
If "Yes," which Subparts are applicable? (answer below.)				
If "Yes" to any of the above, please attach a discussion of how the facilities will meet any applic	able standards.			
5. 30 TAC § 106.4(a)(7): PBR prohibition check				
Are there any air permits at the site containing conditions which prohibit or restrict the use of PBRs?	🗌 YES 🖾 NO			
If "Yes," PBRs may not be used or their use must meet the restrictions of the permit. A new permit or permit amendment may be required.				
List permit number(s):				
6. 30 TAC § 106.4(a)(8): NO _x Cap and Trade				
Is the facility located in Harris, Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery, or Waller County?	🗌 YES 🖾 NO			
If "Yes," answer the question below.				
If "No," continue to Section 7.				
Will the proposed facility or group of facilities obtain required allowances for NO _x if they are subject to 30 TAC Chapter 101, Subchapter H, Division 3 (relating to the Mass Emissions Cap and Trade Program)?	□ YES □ NO			

7. Highly Reactive Volatile Organic Compounds (HRVOC) check								
Is the facility located in Harris County?	🗌 YES 🖾 NO							
If "Yes," answer the next question. If "No," skip to the box below.								
Will the project be constructed after June 1, 2006?		🗌 YES 🗌 NO						
If "Yes," answer the next question.								
If "No," skip to the box below.								
Will one or more of the following HRVOC be emitted as a part of this project?								
If "Yes," complete the information below:								
Information	lb/hr	tpy						
► 1,3-butadiene								
 all isomers of butene (e.g., isobutene [2-methylpropene or isobutylene]) 								
 alpha-butylene (ethylethylene) 								
 beta-butylene (dimethylethylene, including both cis- and trans-isomers) 								
▶ ethylene								
▶ propylene								
Is the facility located in Brazoria, Chambers, Fort Bend, Galveston Montgomery, or Waller County?	, Liberty,	🗌 YES 🖾 NO						
If "Yes," answer the next question. If "No," the checklist is complete	9.							
Will the project be constructed after June 1, 2006?		YES NO						
If "Yes," answer the next question. If "No," the checklist is complete.								
Will one or more of the following HRVOC be emitted as a part of this project?								
If "Yes," complete the information below:								
Information	lb//hr	tpy						
▶ ethylene								
► propylene								



APPENDIX B EMISSIONS CALCULATIONS

FIN: FUG_NG EPN: FUG_NG

Average Weight Percent Composition

	C3 (Propane) (wt%)	IC4 (Iso-Butane) (wt%)	NC4 (N-Butane) (wt%)	IC5 (Iso-Pentane) (wt%)	NC5 (N-Pentane) (wt%)	C6+ (Hexanes +) (wt%)	C6 (Hexane) (wt%)	C7 (Heptane) (wt%)	C8 (Octane) (wt%)	Total VOC (C3 -C8) (wt%)
Natural Gas Streams										
GVVLV	0.1037%	0.0029%	0.0053%	0.0004%	0.0003%	0.0008%	0.0004%	0.0003%	0.0001%	0.1142%
GVFLNG	0.1037%	0.0029%	0.0053%	0.0004%	0.0003%	0.0008%	0.0004%	0.0003%	0.0001%	0.1142%

Hourly Emissions

	FOS	Count	Emission Factor (Ib/hr/component)		Control Efficiency (%)	C3 (Propane) (lb/hr)	IC4 (Iso-Butane) (Ib/hr)	NC4 (N-Butane) (Ib/hr)	IC5 (Iso-Pentane) (Ib/hr)	NC5 (N-Pentane) (Ib/hr)	C6+ (Hexanes +) (Ib/hr)	C6 (Hexane) (Ib/hr)	C7 (Heptane) (Ib/hr)	C8 (Octane) (Ib/hr)	Total VOC (C3 -C8) (lb/hr)
Natural Gas Str	eams		((10)	(12/11)	()	()	(12.11.)	()	(12.11.)	()	()	(12111)	(12/11)
GVVLV	1.2	13	0.0089	None	0%	1.44E-04	4.03E-06	7.36E-06	5.55E-07	4.17E-07	1.11E-06	5.55E-07	4.17E-07	1.39E-07	1.59E-04
GVFLNG	i 1.2	26	0.0029	None	0%	9.38E-05	2.62E-06	4.80E-06	3.62E-07	2.71E-07	7.24E-07	3.62E-07	2.71E-07	9.05E-08	1.03E-04
					TOTAL	2.38E-04	6.65E-06	1.22E-05	9.17E-07	6.88E-07	1.83E-06	9.17E-07	6.88E-07	2.29E-07	2.62E-04

Annual Emissions

	FOS Compone	Component	onent Emission Factor	n Factor LDAR Program	Control Efficiency	C3	IC4	NC4	IC5	NC5	C6+	C6	C7	C8	Total VOC	
		FUS	Component	EIIIISSIOII FACIOI	LDAK Program	Control Eniciency	(Propane)	(Iso-Butane)	(N-Butane)	(Iso-Pentane)	(N-Pentane)	(Hexanes +)	(Hexane)	(Heptane)	(Octane)	(C3 -C8)
			Count	(lb/yr/component)		(%)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)
Natu	Iral Gas Stre	ams														
	GVVLV	1.2	13	77.964	None	0%	6.31E-04	1.76E-05	3.22E-05	2.43E-06	1.82E-06	4.86E-06	2.43E-06	1.82E-06	6.08E-07	6.94E-04
	GVFLNG	1.2	26	25.404	None	0%	4.11E-04	1.15E-05	2.10E-05	1.59E-06	1.19E-06	3.17E-06	1.59E-06	1.19E-06	3.96E-07	4.53E-04
						TOTAL	1.04E-03	2.91E-05	5.32E-05	4.02E-06	3.01E-06	8.04E-06	4.02E-06	3.01E-06	1.00E-06	1.15E-03

Notes

1. Emission factors used are "SOCMI without ethylene factors" taken from the TCEQ technical guidance package for Equipment Leak Fugitives, APDG6422v2, Revised 06/2018.

2. The maximum emissions of the chemical constituent in all streams are calculated by multiplying a factor of safety (FOS) to account for fluctuations in the weight percentages.

3. The weight percentages represented on this sheet are weighted averages of all the streams at the site. The weighted average is based on the component count in service for specific chemicals.

Sample Calculation

For Propane gas vapor valves

Hourly Emissions (lb/hr) = Component Count (#) * Average Weight Percent (%) * (1 - Control Efficiency (%)) * Leak Factor (lb/hr/component) * FOS (dimensionless) Hourly Emissions = 13 (#) * 0.1037% * (1 - 0%) * 0.0089 (lb/hr/component) * 1.2 (dimensionless) = 1.44E-04 lb/hr

Annual Emissions (tpy) = Component Count (#) * Average Weight Percent (%) * (1 - Control Efficiency (%)) * Leak Factor (lb/yr/component) * FOS (dimensionless) / 2,000 (lb/ton) Annual Emissions = 13 (#) * 0.1037% * (1- 0%) * 77.964 (lb/yr/component) * 1.2 (dimensionless) / 2,000 (lb/ton) = 6.31E-04 tpy



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