



ENTERPRISE PRODUCTS PARTNERS L.P.  
ENTERPRISE PRODUCTS HOLDINGS LLC  
(General Partner)

ENTERPRISE PRODUCTS OPERATING LLC

October 31, 2024

Via STEERS

Air Permits Initial Review Team (APIRT), MC-161  
Texas Commission on Environmental Quality (TCEQ)  
12100 Park 35 Circle, Building C, Third Floor  
Austin, Texas 78753

**Re: Permit by Rule (PBR) Initial Registration  
Enterprise Products Operating LLC (CN603211277)  
EPOLP Houston Ship Channel Marine Loading Facility (RN102580834)  
Houston, Harris County, Texas**

Dear Sir or Madam:

Enterprise Products Operating LLC (Enterprise) owns and operates the Houston Ship Channel Marine Loading Facility (the Site) located in Houston, Harris County, Texas. The site operates under New Source Review (NSR) Permit No. 97022, various Permit by Rule (PBR)s, and Site Operating Permit (SOP) O-3835.

With this PBR application, Enterprise is proposing to authorize an additional train (Train 4) for refrigeration of propane. The product is pipelined to the site, refrigerated, and exported out via marine loading vessels to external customers.

Enterprise seeks to register and certify this project under Title 30 of the Texas Administrative Code (30 TAC):

- §106.183 – Boilers, Heaters, and Other Combustion Devices
- §106.261 – Facilities (Emission Limitations),
- §106.371 – Cooling Water Units, and
- §106.373 – Refrigeration Systems,
- and will comply with the general PBR requirements specified under 30 TAC §106.4 (Requirements for Permitting by Rule).

We look forward to assisting the TCEQ during review of this package and to obtaining issuance of the registration. Please do not hesitate to contact me at (713) 381-3669 or by email at [dmbissonnette@eprod.com](mailto:dmbissonnette@eprod.com) or Pranav Kulkarni at 713-381-5830 if you should have questions or comments.

Sincerely,

**Enterprise Products Operating LLC**



Daniel M. Bissonnette  
Supervisor, Environmental



Pranav Kulkarni, Ph.D.  
Director, Environmental

Enclosure



**ENTERPRISE PRODUCTS OPERATING LLC  
EPOLP HOUSTON SHIP CHANNEL MARINE  
LOADING FACILITY (EHT Facility)  
Customer No.: CN603211277  
Regulated Entity No.: RN102580834**

**TCEQ Air Quality Permit by Rule Application**

**October 2024**

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## 1. EXECUTIVE SUMMARY

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Enterprise Products Operating LLC (“Enterprise”) owns and operates the EPOLP Ship Channel Marine Loading Facility (EHT Facility) located in Houston, Harris County, Texas. Enterprise has been assigned Texas Commission on Environmental Quality (TCEQ) Customer Reference Number, CN603211277. The EHT Facility currently operates under the Regulated Entity Number RN102580834. The site operates under New Source Review (NSR) Permit No. 97022, various Permit by Rule (PBR)s, and Site Operating Permit (SOP) O-3835.

With this PBR application, Enterprise is proposing to authorize an additional train (Train 4) for refrigeration of propane. The product is pipelined to the site, refrigerated, and exported out via marine loading vessels to external customers.

Enterprise seeks to register and certify this project under Title 30 of the Texas Administrative Code (30 TAC) §106.183 – Boilers, Heaters, and Other Combustion Devices, §106.261 – Facilities (Emission Limitations), §106.371 – Cooling Water Units, and §106.373 – Refrigeration Systems, and will comply with the general PBR requirements specified under 30 TAC §106.4 (Requirements for Permitting by Rule). Maintenance, startup, shutdown (MSS) emissions associated with Train 4 are being authorized under 30 TAC §106.263 (Routine Maintenance, Start-up and Shutdown of Facilities, and Temporary Maintenance Facilities), which will be filed internally and is not being registered.

A completed TCEQ Form PI-7-CERT, PBR checklists for 30 TAC §106.4 and 30 TAC §106.261 (submitted electronically), as well as TCEQ Table 1(a), are included in Section 2. TCEQ Table 1-F, Table 2-F, and Table 3-F are included in Appendix B. A project description and process flow diagram are included in Section 3. Emission calculation methodologies are presented in Section 4. A Federal New Source Review (FNSR) Applicability Analysis is discussed in Section 5. The PBR requirements are addressed in Section 6. In addition, the following information is provided in the attached appendices of this registration:

- > Appendix A – Detailed Emissions Calculations
- > Appendix B – FNSR Applicability Analysis

## 2. TCEQ FORMS

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**PI-7-CERT Form**  
**106.4 Checklist**  
**106.261 Workbook (submitted electronically)**  
**Table 1(a)**

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

<b>I. Registrant Information</b>
A. Company or Other Legal Customer Name: Enterprise Products Operating LLC
Company Official Contact Information ( <input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Mrs. <input type="checkbox"/> Ms. <input type="checkbox"/> Other _____ )
Name: Bradley J. Cooley, P.E.
Title: Senior Director
Mailing Address: PO Box 4324 / ENV
City: Houston
State: TX
ZIP Code: 77210-4324
Phone: 713-381-6595
Fax:
Email Address: environmental@eprod.com
<i>All PBR registration responses will be sent via email.</i>
A. Technical Contact Information ( <input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Mrs. <input type="checkbox"/> Ms. <input type="checkbox"/> Other _____ )
Name: Daniel Bissonnette
Title: Supervisor, Environmental
Company Name: Enterprise Products Operating LLC
Mailing Address: PO Box 4324 / ENV
City: Houston
State: TX
ZIP Code: 77210-4324
Phone Number: 713-381-3669
Fax Number:
Email Address: dmbissonnette@eprod.com



**Certification and Registration for Permits by Rule  
Form PI-7-CERT  
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<b>II. Facility and Site Information (continued)</b>	
G. Historical Standard Exemption or PBR	
Are you claiming a historical standard exemption or PBR?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
If "YES," enter previous standard exemption number(s) and PBR registration number(s) and associated effective dates in the spaces provided below.	
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, PBR, or Standard Permit?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
If "YES," enter standard exemption number(s), PBR registration number(s), and Standard Permit registration number(s), and associated effective date in the spaces provided below.	
Standard Exemption, PBR Registration, and Standard Permit Registration Number(s): Multiple	
Effective Date: Various	
Standard Exemption, PBR Registration, and Standard Permit Registration Number(s):	
Effective Date:	
Standard Exemption, PBR Registration, and Standard Permit Registration Number(s):	
Effective Date:	
J. Other Air Preconstruction Permits	
Are there any other air preconstruction permits at this site?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
If "YES," enter permit number(s) in the spaces provided below.	
97022	
K. Affected Air Preconstruction Permits	
Does the PBR being claimed directly affect any permitted facility?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

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

<b>II. Facility and Site Information</b> <i>(continued)</i>
If "YES," enter the permit number(s) in the spaces provided below.
97022
<b>L. Federal Operating Permit (FOP) Requirements</b> (30 TAC Chapter 122 Applicability)
1. Is this facility located at a site that is required to obtain an FOP pursuant to 30 TAC Chapter 122? <span style="float: right;"><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> To Be Determined</span>
If the site currently has an existing FOP, enter the permit number: O-3835
Check the requirements of 30 TAC Chapter 122 that will be triggered if this certification is accepted. <i>(check all that apply)</i>
<input type="checkbox"/> Initial Application for a FOP <input type="checkbox"/> Significant Revision for an SOP <input type="checkbox"/> Minor Revision for an SOP
<input checked="" type="checkbox"/> Operational Flexibility/Off Permit Notification for an SOP <input type="checkbox"/> Revision for a GOP
<input type="checkbox"/> To be Determined <input type="checkbox"/> None
2. Identify the type(s) of FOP issued and/or FOP application(s) submitted/pending for the site. <i>(check all that apply)</i>
<input checked="" type="checkbox"/> SOP <input type="checkbox"/> GOP <input type="checkbox"/> GOP application/revision (submitted or under APD review)
<input type="checkbox"/> N/A <input checked="" type="checkbox"/> SOP application/revision (submitted or under APD review)
<b>III. Fee Information</b> <i>(See Section VII. for address to send fee or go to <a href="http://www.tceq.texas.gov/epay">www.tceq.texas.gov/epay</a> to pay online.)</i>
<b>A. Fee Requirements</b>
Is a fee required per Title 30 TAC § 106.50? <span style="float: right;"><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</span>
If "NO," specify the exception. There are three exceptions to paying a PBR fee. <i>(check all that apply)</i>
1. Registration is solely to establish a federally enforceable emission limit. <span style="float: right;"><input type="checkbox"/></span>
2. Registration is within six months of an initial PBR review, and it is addressing deficiencies, administrative changes, or other allowed changes. <span style="float: right;"><input type="checkbox"/></span>
3. Registration is for a remediation project (30 TAC § 106.533). <span style="float: right;"><input type="checkbox"/></span>
<b>B. Fee Amount</b>
1. A \$100 fee is required if <i>any</i> of the answers in III.B.1 are "YES."
This business has less than 100 employees. <span style="float: right;"><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</span>
This business has less than \$6 million dollars in annual gross receipts. <span style="float: right;"><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</span>
This registration is submitted by a governmental entity with a population of less than 10,000. <span style="float: right;"><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</span>
This registration is submitted by a non-profit organization. <span style="float: right;"><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</span>

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

<b>III. Fee Information</b> (See Section VII. for address to send fee or go to <a href="http://www.tceq.texas.gov/epay">www.tceq.texas.gov/epay</a> to pay online.) (continued)	
2. A \$450 fee is required for all other registrations	
A. Payment Information	
Check/money order/transaction or voucher number: See STEERS/ePay Payment	
Individual or company name on check: N/A	
Fee Amount: \$450	
Was the fee paid online? <span style="float: right;"><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</span>	
<b>IV. Technical Information Including State and Federal Regulatory Requirements</b> <b>Check the appropriate box to indicate what is included in your submittal.</b> <b>NOTE:</b> 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.	
A. PBR requirements (Checklists are optional; however, your review will go faster if you provide applicable checklists.)	
Did you demonstrate that the general requirements in 30 TAC § 106.4 are met? <span style="float: right;"><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</span>	
Did you demonstrate that the individual requirements of the specific PBR are met? <span style="float: right;"><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</span>	
B. Confidential Information Included (If confidential information is submitted with this registration, all confidential pages must be properly marked "CONFIDENTIAL.") <span style="float: right;"><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</span>	
C. Process Flow Diagram: <span style="float: right;"><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</span>	
D. Process Description: <span style="float: right;"><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</span>	
E. Maximum Emissions Data and Calculations: <span style="float: right;"><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</span>	
<b>Note:</b> If the facilities listed in this registration are subject to the Mass Emissions Cap & Trade program under <b>30 TAC Chapter 101, Subchapter H, Division 3</b> , the owner/operator of these facilities must possess NO <sub>x</sub> allowances equivalent to the actual NO <sub>x</sub> emissions from these facilities.	
F. Is this certification being submitted to certify the emissions for the entire site? <span style="float: right;"><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</span>	
If "NO," include a summary of the specific facilities and emissions being certified.	
G. Table 1(a) (Form 10153) Emission Point Summary: <span style="float: right;"><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</span>	
H. Distances from Property Line and Nearest Off-Property Structure	
Distance from this facility's emission release point to the nearest property line:	125 feet
Distance from this facility's emission release point to the nearest off-property structure:	1445 feet

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

<b>IV. Technical Information Including State and Federal Regulatory Requirements</b> <b>Check the appropriate box to indicate what is included in your submittal.</b> <b>NOTE:</b> 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?	<input checked="" type="checkbox"/> Implemented <input type="checkbox"/> Waiting
J. Projected Start of Construction and Projected Start of Operation Dates:	
Projected Start of Construction (provide date): November 2024	
Projected Start of Operation (provide date): December 2025	
<b>V. Delinquent Fees</b>	
This form <b>will not be processed</b> 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: <a href="http://www.tceq.texas.gov/agency/financial/fees/delin/index.html">www.tceq.texas.gov/agency/financial/fees/delin/index.html</a> .	
<b>VI. Signature For Registration and Certification</b>	
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):	
Bradley J. Cooley, P.E.	
Signature (original signature required)	
<i>Certified electronically via STEERS</i>	
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 <sup>1</sup> .
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 <sup>2</sup> .
Appropriate TCEQ Regional Office	To find your Regional Office address, go to the TCEQ website at <a href="http://www.tceq.texas.gov/agency/directory/region">www.tceq.texas.gov/agency/directory/region</a> , or call (512) 239-1250.	Copy of Form PI-7-CERT, Core Data Form, and all attachments. Not required if using ePermits <sup>1</sup>
Appropriate Local Air Pollution Control Program(s)	To Find your local or Regional Air Pollution Control Programs go to the TCEQ, APD website at <a href="http://www.tceq.texas.gov/permitting/air/local_programs.html">www.tceq.texas.gov/permitting/air/local_programs.html</a> , or call (512)-239-1250	Copy of Form PI-7-CERT, Core Data Form, and all attachments.

<sup>1</sup> ePermits located at [www3.tceq.texas.gov/steers/](http://www3.tceq.texas.gov/steers/)

<sup>2</sup> ePay located at [www.tceq.texas.gov/epay](http://www.tceq.texas.gov/epay)

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  
Permit by Rule Applicability Checklist  
Title 30 Texas Administrative Code § 106.4**

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](http://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 <b>each</b> facility (add additional pages or table if needed):	
Are the SO <sub>2</sub> , PM <sub>10</sub> , VOC, or other air contaminant emissions claimed for <b>each</b> facility in this PBR submittal less than 25 tpy?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Are the NO <sub>x</sub> and CO emissions claimed for each facility in this PBR submittal less than 250 tpy?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
<i>If the answer to both is "Yes," continue to the question below. If the answer to either question is "No," a PBR cannot be claimed.</i>	
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.)	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
<i>If "Yes," skip to Section 2. If "No," continue to the questions below.</i>	
If the site has had no public notice, please answer the following:	
Are the SO <sub>2</sub> , PM <sub>10</sub> , VOC, or other emissions claimed for <b>all</b> facilities in this PBR submittal less than 25 tpy?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Are the NO <sub>x</sub> and CO emissions claimed for all facilities in this PBR submittal less than 250 tpy?	<input type="checkbox"/> YES <input type="checkbox"/> NO
<i>If the answer to both questions is "Yes," continue to Section 2.</i>	
<i>If the answer to either question is "No," a PBR cannot be claimed. A permit will be required under Chapter 116.</i>	

**Texas Commission on Environmental Quality  
Permit by Rule Applicability Checklist  
Title 30 Texas Administrative Code § 106.4**

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?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
<i>If "Yes," please indicate which county by checking the appropriate box to the right.</i>	
(Moderate) - Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller counties:	<input checked="" type="checkbox"/> HGB
(Moderate) - Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise counties:	<input type="checkbox"/> DFW
<i>If "Yes," to any of the above, continue to the next question. If "No," continue to Section 3.</i>	
Does this project trigger a nonattainment review?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Is the project's potential to emit (PTE) for emissions of VOC or NO <sub>x</sub> increasing by 100 tpy or more?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
<i>PTE is the maximum capacity of a stationary source to emit any air pollutant under its worst-case physical and operational design unless limited by a permit, rules, or made federally enforceable by a certification.</i>	
Is the site an existing major nonattainment site and are the emissions of VOC or NO <sub>x</sub> increasing by 40 tpy or more?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
<i>If needed, attach contemporaneous netting calculations per nonattainment guidance.</i>	
Additional information can be found at: <a href="http://www.tceq.texas.gov/permitting/air/forms/newsource/tables/nsr_table8.html">www.tceq.texas.gov/permitting/air/forms/newsource/tables/nsr_table8.html</a> and <a href="http://www.tceq.texas.gov/permitting/air/nav/air_docs_newsource.html">www.tceq.texas.gov/permitting/air/nav/air_docs_newsource.html</a>	
<i>If "Yes," to any of the above, the project is a major source or a major modification and a PBR may not be used. A Nonattainment Permit review must be completed to authorize this project. If "No," continue to Section 3.</i>	
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?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Are emissions of any criteria pollutant increasing by 250 tpy of any criteria pollutant at an unnamed source?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Are emissions increasing above significance levels at an existing major site?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
PSD information can be found at: <a href="http://www.tceq.texas.gov/assets/public/permitting/air/Forms/NewSourceReview/Tables/10173tbl.pdf">www.tceq.texas.gov/assets/public/permitting/air/Forms/NewSourceReview/Tables/10173tbl.pdf</a> and <a href="http://www.tceq.texas.gov/permitting/air/nav/air_docs_newsource.html">www.tceq.texas.gov/permitting/air/nav/air_docs_newsource.html</a>	
<i>If "Yes," to any of the above, a PBR may not be used. A PSD Permit review must be completed to authorize the project.</i>	
<i>If "No," continue to Section 4.</i>	

**Texas Commission on Environmental Quality  
Permit by Rule Applicability Checklist  
Title 30 Texas Administrative Code § 106.4**

4. <b>30 TAC § 106.4(a)(6): Federal Requirements</b>	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)?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA
If "Yes," which Subparts are applicable? ( <i>answer below.</i> )	
Subpart Dc	
Will all facilities under this PBR meet applicable requirements of 40 CFR Part 63, Hazardous Air Pollutants Maximum Achievable Control Technology (MACT) standards?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA
If "Yes," which Subparts are applicable? ( <i>answer below.</i> )	
Subpart DDDDD	
Will all facilities under this PBR meet applicable requirements of 40 CFR Part 61, National Emissions Standards for Hazardous Air Pollutants (NESHAPs)?	<input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> NA
If "Yes," which Subparts are applicable? ( <i>answer below.</i> )	
<i>If "Yes" to any of the above, please attach a discussion of how the facilities will meet any applicable standards.</i>	
<b>5. 30 TAC § 106.4(a)(7): PBR prohibition check</b>	
Are there any air permits at the site containing conditions which prohibit or restrict the use of PBRs?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
<i>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.</i>	
<i>List permit number(s):</i>	
<b>6. 30 TAC § 106.4(a)(8): NO<sub>x</sub> Cap and Trade</b>	
Is the facility located in Harris, Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery, or Waller County?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
<i>If "Yes," answer the question below.</i>	
<i>If "No," continue to Section 7.</i>	
Will the proposed facility or group of facilities obtain required allowances for NO <sub>x</sub> if they are subject to 30 TAC Chapter 101, Subchapter H, Division 3 (relating to the Mass Emissions Cap and Trade Program)?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

**Texas Commission on Environmental Quality  
Permit by Rule Applicability Checklist  
Title 30 Texas Administrative Code § 106.4**

<b>7. Highly Reactive Volatile Organic Compounds (HRVOC) check</b>		
Is the facility located in Harris County?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
<i>If "Yes," answer the next question. If "No," skip to the box below.</i>		
Will the project be constructed after June 1, 2006?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
<i>If "Yes," answer the next question.</i>		
<i>If "No," skip to the box below.</i>		
Will one or more of the following HRVOC be emitted as a part of this project?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
<i>If "Yes," complete the information below:</i>		
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	<100	3.09
Is the facility located in Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery, or Waller County?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
<i>If "Yes," answer the next question. If "No," the checklist is complete.</i>		
Will the project be constructed after June 1, 2006?	<input type="checkbox"/> YES <input type="checkbox"/> NO	
<i>If "Yes," answer the next question. If "No," the checklist is complete.</i>		
Will one or more of the following HRVOC be emitted as a part of this project?	<input type="checkbox"/> YES <input type="checkbox"/> NO	
<i>If "Yes," complete the information below:</i>		
Information	lb/hr	tpy
▶ ethylene		
▶ propylene		

**Table 1(a) Emission Point Summary  
Air Contaminant Data (Page 1)  
Texas Commission on Environmental Quality**

Date:	Permit No.:	Regulated Entity No.:	Area Name:	Customer Reference No.:
10/23/2024	TBA	RN102580834	EPOLP Houston Ship Channel Marine Loading Facility	CN603211277

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

EPN	FIN	Name	Component or Air Contaminant Name	Air Contaminant Emission Rate lb/hr	Air Contaminant Emission Rate TPY
HTR5	HTR5	Regeneration Heater No. 5	VOC	0.20	0.88
			NOx	1.12	4.91
			CO	1.60	7.01
			PM	0.20	0.88
			PM10	0.20	0.88
			PM2.5	0.20	0.88
			SO2	0.06	0.26
WSAC4	WSAC4	WSAC - Train 4	PM	0.64	2.79
			PM10	0.28	1.22
			PM2.5	0.001	0.01
T4FUG	T4FUG	Fugitives - Train 4	VOC	1.14	5.00
FLARE3	FLARE3	Flare 3 Routine Emissions	VOC	0.04	3.24
			NOx	1.12	2.51
			CO	4.46	9.99
			SO2	0.00	0.01

EPN = Emission Point

FIN = Facility Identification Number

## 3. PROCESS DESCRIPTION AND FLOW DIAGRAM

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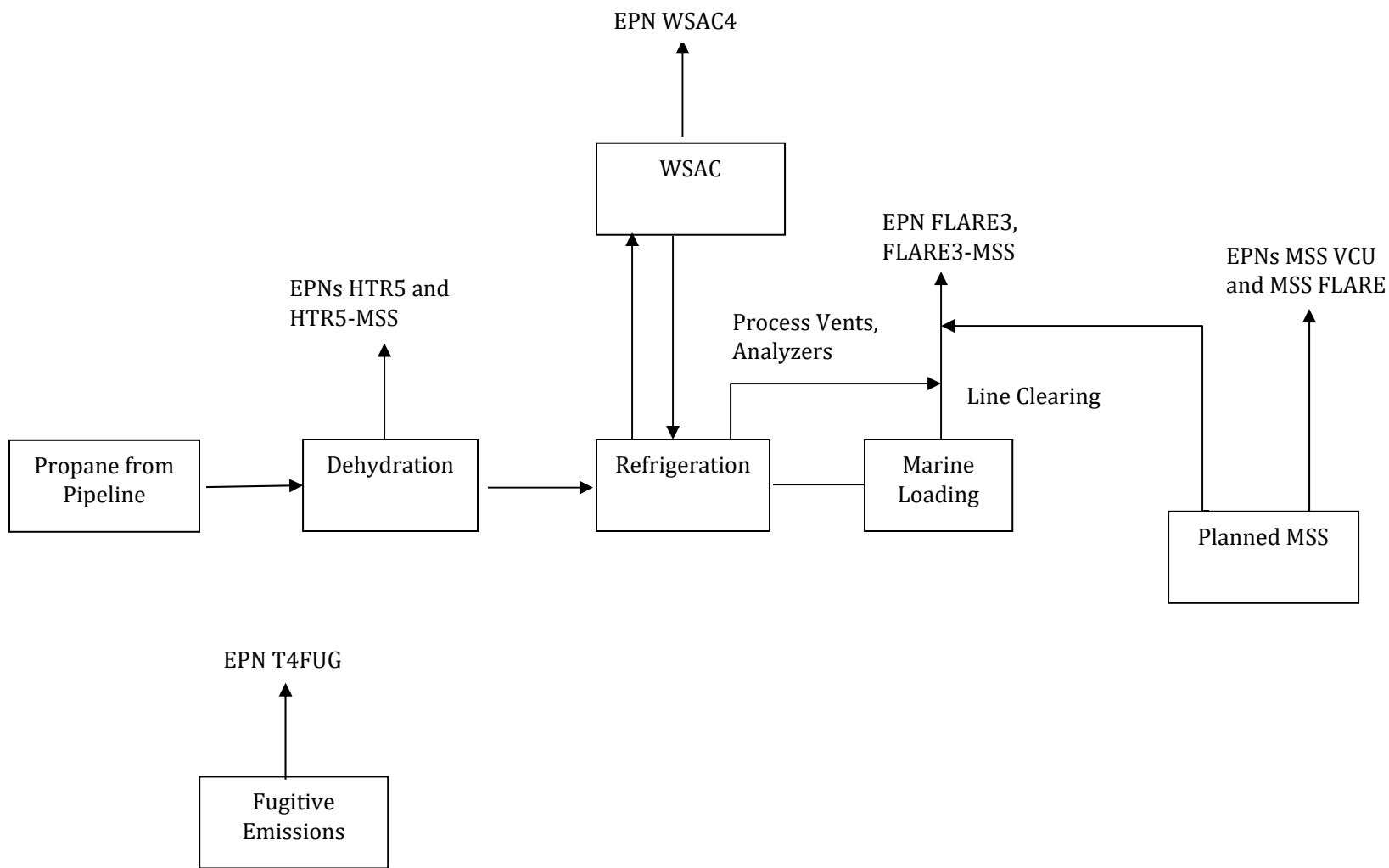
### 3.1. PROCESS DESCRIPTION

The EHT Facility is a marine transfer facility that consists of three trains for the dehydration, refrigeration, and marine loading of Natural Gas Liquids (NGL) products. The EHT Facility primarily handles light materials including propane, butane, isobutane, and propylene. These products are received by pipeline. Received products are dehydrated to remove water, the dehydration process is supported by heat generated by the natural gas-fired regeneration heaters. Product is then cooled through the fin-fan cooler or Wet Surface Air Cooler (WSAC) systems. Heavier materials may also be handled at the EHT Facility. All materials are stored off-site; therefore, no product storage tanks are located at the site. The materials are transferred into marine vessels via pressurized loading. Two flares (EPNs FLARE2 and FLARE3) control the vents from the refrigeration trains and loading arm clearing activities after ship loading. Vapors are captured using a vacuum system and routed to the flares.

### 3.2. PROJECT DESCRIPTION

With this PBR application, Enterprise is proposing to authorize an additional train (Train 4) for refrigeration of propane. Propane received at the site will first be dehydrated with a natural gas-fired regeneration heater (EPN: HTR-5) to remove water. The dehydrated propane will then be cooled through a refrigeration system, which utilizes propylene as a refrigerant. The WSAC system (EPN: WSAC4) will be used to cool the propylene refrigerant that will be used to cool the propane. No product storage tanks are located at the site. The propane will be transferred into marine vessels via pressurized loading. An existing flare (EPN: FLARE3) will control the vents from refrigeration Train 4 and loading arm clearing activities after ship loading. Vapors are captured using a vacuum system and routed to the flare. Fugitive components throughout the train emit VOCs to the atmosphere (EPN: T4FUG).

MSS activities from Train 4 include propane dehydrator system startup and shutdown, propylene refrigeration system startup and shutdown, small equipment maintenance (pump degassing, meter clearing, meter proving), and potassium hydroxide (KOH) treater system shutdown. Controlled MSS from Train 4 is routed to Flare 3 (EPN: FLARE3-MSS), portable flare (EPN: MSS FLARE), or portable VCU (EPN: MSS VCU). Uncontrolled MSS emissions from Train 4 are from propane dehydrator system degassing, relief valve degassing, and KOH treater system degassing (EPN: MSS-ATM). After a shutdown, the natural gas-fired regeneration heater will generate startup emissions (EPN: HTR5-MSS). MSS emissions will remain unregistered under PBR §106.263.



## 4. EMISSIONS CALCULATIONS

This section provides detailed emissions calculations associated with the proposed project. Detailed emission calculations are provided in Appendix A.

### 4.1. REGENERATION HEATER (EPN HTR5)

Emissions from the heater are calculated by multiplying the firing rate (40 MMBtu/hr) by the appropriate emission factor. The NO<sub>x</sub>, CO, VOC, and PM emission factors for the heater are based on information from the manufacturer. SO<sub>2</sub> emissions are based on EPA's AP-42 Table 1.4-2 (with a conversion from 2,000 gr/MMscf to 5,000 gr/MMscf). The heater is permitted to fire 8,760 hours per year.

### 4.2. WSAC EMISSIONS (EPN WSAC4)

Proposed emissions of PM are based on the circulation rate (36,400 gallon per minute), expected TDS concentrations (3,500 ppmw) in the circulating cooling water, and a design drift rate of 0.001% (BACT requirement) of the circulating water. Based on the design of the WSAC, there are no VOC emissions associated with this equipment. The annual emissions for the WSAC are based on the operating service of 8,760 hours per year.

### 4.3. FUGITIVE EMISSIONS (EPN T4FUG)

Fugitive emissions will occur from the equipment components associated with Train 4. Emissions are calculated using the SOCM without Ethylene factors from TCEQ's "Air Permit Technical Guidance for Chemical Sources, Fugitive Guidance, APDG 6422, June 2018". Control credit for the 28MID and 28CNTQ programs are applied to the emissions.

### 4.4. FLARE EMISSIONS (EPN FLARE3)

Emissions from vents in Train 4 and loading arm clearing activities will be controlled by existing FLARE3. A control efficiency of 99% is applied to the propane emissions. Emissions of NO<sub>x</sub> and CO are calculated based on the heating value of the stream and TCEQ factors.

### 4.5. COMPLIANCE WITH REQUIREMENTS OF 30 TAC §106.261

30 TAC §106.261(a)(1) requires that all facilities authorized under this PBR be located at least 100 feet from any residence, recreational area, or other structure not occupied or used by the owner of the facility. 30 TAC §106.261(a)(2) states that new or increased emissions, including fugitives, are not allowed to exceed 6 pounds per hour (lb/hr) and 10 tons per year (tpy) for any of the chemicals listed in that paragraph. 30 TAC §106.261(a)(3) requires that emissions of contaminants having a limit value (L) greater than 200 milligram per cubic meter (mg/m<sup>3</sup>) as listed or referenced in Table 262 of 30 TAC §106.262 or any chemical not listed or referenced in Table 262 will be less than 1 lb/hr. Fugitive and flaring emissions of propane, NO<sub>x</sub>, and CO are less than 6 lb/hr and 10 tpy, as detailed in Appendix A.

The sources included in the 106.261 emission totals are the process fugitives (EPN T4FUG) and the flare emissions (EPN FLARE3). Emissions from the flare include purge gas from the refrigeration train and additional loading arm clearing activities. The loading arm clearing activities are only included in the annual emissions as there will be no additional loading (beyond currently authorized) on an hourly basis.

Section IV of the PBR 106.261 and 106.262 workbook states “Project emission increases associated with a change to a facility that only result in an annual emissions increase can be authorized as part of the PBR claim if the following information is met: 1) the hourly emissions stay at or below current authorized emission limits; 2) there is not a change to any underlying air authorizations for the applicable units associated with BACT or health and environmental impacts; and 3) this claim is certified via PI-7CERT. The annual emission increases associated with the PBR claim may not circumvent major new source review requirements under 30 TAC Chapter 116.” For the loading arm clearing activities, this registration does not propose to increase any hourly emissions but only proposes increases in annual emissions and the aforementioned conditions 2 and 3 are also readily satisfied. As such, Section IV of the PBR has been satisfied.

## 5. FEDERAL NEW SOURCE REVIEW APPLICABILITY ANALYSIS

The EHT Facility is located in Harris County, Texas. Harris County is classified as severe nonattainment for ozone and attainment or unclassified for all other criteria pollutants. The site is an existing major source of VOCs. The facility when combined with the adjoined Enterprise Houston Terminal (petroleum storage terminal) is considered a Prevention of Significant Deterioration (PSD) major source.

As demonstrated in Table 5-1 below, the net emission increases (NEIs) for VOC and NO<sub>x</sub> emissions are each below the 25 tpy Non-attainment New Source Review (NNSR) major modification threshold, as also included in Appendix B. Therefore, a nonattainment review is not required. The proposed project emission increases of PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, CO, and SO<sub>2</sub> are less than the PSD thresholds. Therefore, a PSD review is not required.

**Table 5-1. FNSR Applicability Analysis**

	Project Emission Increase (PEI)					
	VOC (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	PM <sub>10</sub> (tpy)	PM <sub>2.5</sub> (tpy)	SO <sub>2</sub> (tpy)
Total Project Emission Increases (tpy)	<b>14.34</b>	<b>10.12</b>	<b>28.96</b>	<b>2.10</b>	<b>0.88</b>	<b>0.27</b>
30 TAC §106.4 Limits (tpy)	<b>25</b>	<b>250</b>	<b>250</b>	<b>25</b>	<b>15</b>	<b>10</b>
Exceeds 30 TAC §106.4 Limits? (Y/N)	<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>
NNSR Significance Level (tpy)	<b>5</b>	<b>5</b>	--	--	--	--
Exceeds NNSR Significance Level? (Y/N)	<b>Y</b>	<b>Y</b>	--	--	--	--
NNSR Net Contemporaneous Change (tpy)	<b>21.43</b>	<b>18.09</b>	--	--	--	--
NNSR Major Modification Threshold (tpy)	<b>25</b>	<b>25</b>	--	--	--	--
Exceeds NNSR Major Modification Threshold? (Y/N)	<b>N</b>	<b>N</b>	--	--	--	--
PSD Major Modification Threshold (tpy)	<b>NA</b>	<b>40</b>	<b>100</b>	<b>15</b>	<b>10</b>	<b>10</b>
Exceeds PSD Major Modification Threshold? (Y/N)	<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>

## 6. REQUIREMENTS FOR PERMIT BY RULE

To be permitted by rule, the proposed project must meet the general requirements of 30 TAC §106.4 and the specific requirements of 30 TAC §106.183, §106.261, §106.371, and §106.373. The requirements are listed and compliance with each condition is addressed in this section.

### 6.1. 30 TAC §106.4 REQUIREMENTS FOR PERMITTING BY RULE (EFFECTIVE APRIL 17, 2014)

(a) *To qualify for a permit by rule, the following general requirements must be met.*

- (1) *Total actual emissions authorized under permit by rule from the facility shall not exceed the following limits, as applicable:*
- (A) *250 tons per year (tpy) of carbon monoxide (CO) or nitrogen oxides (NOX);*
  - (B) *25 tpy of volatile organic compounds (VOC), sulfur dioxide (SO<sub>2</sub>), or inhalable particulate matter (PM);*
  - (C) *15 tpy of particulate matter with diameters of 10 microns or less (PM<sub>10</sub>);*
  - (D) *10 tpy of particulate matter with diameters of 2.5 microns or less (PM<sub>2.5</sub>); or*
  - (E) *25 tpy of any other air contaminant except:*
    - (i) *water, nitrogen, ethane, hydrogen, and oxygen; and*
    - (ii) *notwithstanding any provision in any specific permit by rule to the contrary, greenhouse gases as defined in §101.1 of this title (relating to Definitions)*

**As provided in Section 5, Appendix B, and Table 1(a), the total emissions from the proposed increase at EHT Facility will not exceed the limits specified above.**

- (2) *Any facility or group of facilities, which constitutes a new major stationary source, as defined in §116.12 of this title (relating to Nonattainment and Prevention of Significant Deterioration Review Definitions), or any modification which constitutes a major modification, as defined in §116.12 of this title, under the new source review requirements of the Federal Clean Air Act (FCAA), Part D (Nonattainment) as amended by the FCAA Amendments of 1990, and regulations promulgated thereunder, must meet the permitting requirements of Chapter 116, Subchapter B of this title (relating to New Source Review Permits) and cannot qualify for a permit by rule under this chapter. Persons claiming a permit by rule under this chapter should see the requirements of §116.150 of this title (relating to New Major Source or Major Modification in Ozone Nonattainment Areas) to ensure that any applicable netting requirements have been satisfied.*

**The EHT Facility is not a new major stationary source or major modification under Nonattainment requirements of the FCAA. See the applicability analysis in Section 5.**

- (3) *Any facility or group of facilities, which constitutes a new major stationary source, as defined in 40 Code of Federal Regulations (CFR) §52.21, or any change which constitutes a major modification, as defined in 40 CFR §52.21, under the new source review requirements of the FCAA, Part C (Prevention of Significant Deterioration) as amended by the FCAA Amendments of 1990, and regulations promulgated thereunder because of emissions of air contaminants other than greenhouse gases, must meet the permitting requirements of Chapter 116, Subchapter B of this title and cannot qualify for a permit by rule under this chapter. Notwithstanding any provision in any specific permit by rule to the contrary, a new major stationary source or major modification which is subject to Chapter 116, Subchapter B, Division 6 of this title due solely to emissions of greenhouse gases may use a permit by rule under this chapter for air contaminants that are not greenhouse gases. However, facilities or projects which require a prevention of significant deterioration*

*permit due to emissions of greenhouse gases may not commence construction or operation until the prevention of significant deterioration permit is issued.*

**The EHT Facility is not a new major stationary source or major modification under Prevention of Significant Deterioration requirements of the FCAA. See the applicability analysis in Section 5.**

*(4) Unless at least one facility at an account has been subject to public notification and comment as required in Chapter 116, Subchapter B or Subchapter D of this title (relating to New Source Review Permits or Permit Renewals), total actual emissions from all facilities permitted by rule at an account shall not exceed 250 tpy of CO or NO<sub>x</sub>; or 25 tpy of VOC or SO<sub>2</sub> or PM; or 15 tpy of PM<sub>10</sub>; or 10 tpy of PM<sub>2.5</sub>; or 25 tpy of any other air contaminant except water, nitrogen, ethane, hydrogen, oxygen, and GHGs (as specified in §106.2 of this title (relating to Applicability)).*

**This account has been subject to public notification or comment as required under Chapter 116, Subchapter B or Subchapter D. Therefore, the above emission limitations do not apply.**

*(5) Construction or modification of a facility commenced on or after the effective date of a revision of this section or the effective date of a revision to a specific permit by rule in this chapter must meet the revised requirements to qualify for a permit by rule.*

**Emissions associated with the proposed project will comply with the requirements of the most current versions of 30 TAC §§106.4, 106.183, 106.261, 106.371, and 106.373, as applicable. In the event the facilities affected by this project are modified or if the emissions estimates are revised, Enterprise will re-evaluate the applicability of the PBR in effect at the time the modification or change is proposed.**

*(6) A facility shall comply with all applicable provisions of the FCAA, §111 (Federal New Source Performance Standards) and §112 (Hazardous Air Pollutants), and the new source review requirements of the FCAA, Part C and Part D and regulations promulgated thereunder.*

**The facilities affected by the proposed project will comply with all applicable provisions of the Federal Clean Air Act, including provisions related to New Source Performance Standards, Hazardous Air Pollutants, and NSR requirements.**

*(7) There are no permits under the same commission account number that contain a condition or conditions precluding the use of a permit by rule under this chapter.*

**Enterprise has no permit conditions precluding the use of a PBR under this chapter.**

*(8) The proposed facility or group of facilities shall obtain allowances for NO<sub>x</sub> if they are subject to Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program).*

**Enterprise will comply with 30 TAC Chapter 101, Subpart H, Division 3 as applicable.**

*(b) No person shall circumvent by artificial limitations the requirements of §116.110 of this title (relating to Applicability).*

**The proposed project will not circumvent the requirements of 30 TAC §116.110.**

*(c) The emissions from the facility shall comply with all rules and regulations of the commission and with the intent of the Texas Clean Air Act (TCAA), including protection of health and property of the public, and all emissions control equipment shall be maintained in good condition and operated properly during operation of the facility.*

**The proposed facilities at the EHT Facility will be maintained in good condition and operated properly. Additionally, Enterprise will comply with the applicable rules and regulations as stated above.**

*(d) Facilities permitted by rule under this chapter are not exempted from any permits or registrations required by local air pollution control agencies. Any such requirements must be in accordance with Texas Health and Safety Code, §382.113 and any other applicable law.*

**Enterprise will comply with §382.113 and any other applicable law as applicable.**

## **6.2. 30 TAC §106.183 REQUIREMENTS - (EFFECTIVE SEPTEMBER 4, 2000)**

*Boilers, heaters, drying or curing ovens, furnaces, or other combustion units, but not including stationary internal combustion engines or turbines are permitted by rule, provided that the following conditions are met.*

*(1) The only emissions shall be products of combustion of the fuel.*

**The only emissions from the heater will be products of combustion of the fuel.**

*(2) The maximum heat input shall be 40 million British thermal unit (Btu) per hour with the fuel being:*

*(A) sweet natural gas;*

*(B) liquid petroleum gas;*

*(C) fuel gas containing no more than 0.1 grain of total sulfur compounds, calculated as sulfur, per dry standard cubic foot; or*

*(D) combinations of the fuels in subparagraphs (A) - (C) of this paragraph.*

**The maximum firing rate of the heater will be 40 MMBtu/hr and the heater will only burn sweet natural gas.**

*(3) Distillate fuel oil shall be fired as a backup fuel only. Firing shall be limited to 720 hours per year. The fuel oil shall contain less than 0.3% sulfur by weight and shall not be blended with waste oils or solvents.*

**Distillate fuel oil will not be fired in the heater, this condition does not apply.**

*(4) All gas fired heaters and boilers with a heat input greater than ten million Btu per hour (higher heating value) shall be designed such that the emissions of nitrogen oxides shall not exceed 0.1 pounds per million Btu heat input.*

**As demonstrated in Appendix A, emissions of NO<sub>x</sub> will be less than 0.1 lb/MMBtu.**

*(5) Records of hours of fuel oil firing and fuel oil purchases shall be maintained on-site on a two-year rolling retention period and made available upon request to the commission or any local air pollution control agency having jurisdiction.*

**Fuel oil will not be fired in the heater, this condition does not apply.**

### 6.3. 30 TAC §106.261 REQUIREMENTS - (EFFECTIVE NOVEMBER 1, 2003)

(a) *Except as specified under subsection (b) of this section facilities, or physical or operational changes to a facility, are permitted by rule provided that all of the following conditions of this section are satisfied.*

(1) *The facilities or changes shall be located at least 100 feet from any recreational area or residence or other structure not occupied or used solely by the owner or operator of the facilities or the owner of the property upon which the facilities are located.*

**The facilities affected by this authorization request are located at least 100 feet from any recreational area or residence or other structure not occupied or owned/operated by Enterprise.**

(2) *Total new or increased emissions, including fugitives, shall not exceed 6.0 pounds per hour (lb/hr) and ten tons per year of the following materials: acetylene, argon, butane, crude oil, refinery petroleum fractions (except for pyrolysis naphthas and pyrolysis gasoline) containing less than ten volume percent benzene, carbon monoxide, cyclohexane, cyclohexene, cyclopentane, ethyl acetate, ethanol, ethyl ether, ethylene, fluorocarbons Numbers 11, 12, 13, 14, 21, 22, 23, 113, 114, 115, and 116, helium, isohexane, isopropyl alcohol, methyl acetylene, methyl chloroform, methyl cyclohexane, neon, nonane, oxides of nitrogen, propane, propyl alcohol, propylene, propyl ether, sulfur dioxide, alumina, calcium carbonate, calcium silicate, cellulose fiber, cement dust, emery dust, glycerin mist, gypsum, iron oxide dust, kaolin, limestone, magnesite, marble, pentaerythritol, plaster of paris, silicon, silicon carbide, starch, sucrose, zinc stearate, or zinc oxide.*

**As shown in Appendix A, emission increases of propane, propylene, NO<sub>x</sub>, CO, and SO<sub>2</sub> will not exceed 6 lb/hr nor 10 tpy.**

(3) *Total new or increased emissions, including fugitives, shall not exceed 1.0 lb/hr of any chemical having a limit value (L) greater than 200 milligrams per cubic meter (mg/m<sup>3</sup>) as listed and referenced in Table 262 of §106.262 of this title (relating to Facilities (Emission and Distance Limitations)) or of any other chemical not listed or referenced in Table 262. Emissions of a chemical with a limit value of less than 200 mg/m<sup>3</sup> are not allowed under this section.*

**There are no chemicals being authorized under this section.**

(4) *For physical changes or modifications to existing facilities, there shall be no changes to or additions of any air pollution abatement equipment.*

**This registration does not include any physical changes or modifications to existing air pollution abatement equipment; therefore, this citation does not apply.**

(5) *Visible emissions, except uncombined water, to the atmosphere from any point or fugitive source shall not exceed 5.0% opacity in any six-minute period.*

**Visible emissions from the proposed project will not exceed 5.0 % opacity in any six-minute averaging period.**

(6) *For emission increases of five tons per year or greater, notification must be provided using Form PI-7 within ten days following the installation or modification of the facilities. The notification shall include a description of the project, calculations, data identifying specific chemical names, limit values, and a description of pollution control equipment, if any.*

**Enterprise is submitting a PI-7Cert within ten days of construction of the project.**

(7) For emission increases of less than five tons per year, notification must be provided using either:

(A) Form PI-7 within ten days following the installation or modification of the facilities. The notification shall include a description of the project, calculations, data identifying specific chemical names, limit values, and a description of pollution control equipment, if any; or

(B) Form PI-7 by March 31 of the following year summarizing all uses of this permit by rule in the previous calendar year. This annual notification shall include a description of the project, calculations, data identifying specific chemical names, limit values, and a description of pollution control equipment, if any.

**Emissions are greater than five tons per year, this condition does not apply.**

(b) The following are not authorized under this section:

(1) construction of a facility authorized in another section of this chapter or for which a standard permit is in effect; and

(2) any change to any facility authorized under another section of this chapter or authorized under a standard permit.

**None of the facilities associated with this PBR are authorized under another PBR or any standard permit.**

#### **6.4. 30 TAC §106.371 REQUIREMENTS - (EFFECTIVE SEPTEMBER 4, 2000)**

Water cooling towers, water treating systems for process cooling water or boiler feedwater, and water tanks, reservoirs, or other water containers designed to cool, store, or otherwise handle water (including rainwater) that have not been used in direct contact with gaseous or liquid process streams containing carbon compounds, sulfur compounds, halogens or halogen compounds, cyanide compounds, inorganic acids, or acid gases are permitted by rule.

**The WSAC will not be in direct contact with gaseous or liquid process streams containing any of the prohibited materials.**

#### **6.5. 30 TAC §106.373 REQUIREMENTS - (EFFECTIVE SEPTEMBER 4, 2000)**

Refrigeration systems, including storage tanks used in refrigeration systems, that use one of the following categories of refrigerant are permitted by rule:

(1) simple asphyxiants limited to argon, carbon dioxide, ethane, helium, hydrogen, methane, neon, nitrogen, propane, propylene, or liquefied natural gas; or

(2) any other chemical, excluding anhydrous ammonia, with a short-term effects screening level (ESL) published in the commission's ESL list greater than 150 µg/m<sup>3</sup> ;

(3) anhydrous ammonia (ammonia) provided:

(A) the facility is registered with the commission's Office of Permitting, Remediation, and Registration in Austin using Form PI-7; and

(B) the system is maintained in good working order and such that ammonia leaks are not detectable beyond the operator's property line.

**The chiller will use propylene as the refrigerant, as allowed under paragraph (1).**

## APPENDIX A: EMISSION CALCULATIONS

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**Table A-1**  
**Summary of Project Emissions**  
**EPOLP Houston Ship Channel Marine Loading Facility**  
**Enterprise Products Operating LLC**

**Emission Summary by Authorization**

EPN	FIN	Description	Table	Authorization	VOC		Propane		Propylene		NO <sub>x</sub>		CO		PM		PM <sub>10</sub>		PM <sub>2.5</sub>		SO <sub>2</sub>	
					(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
HTR5	HTR5	Regeneration Heater - Train 4	A-2	§106.183	0.20	0.88	--	--	--	--	1.12	4.91	1.60	7.01	0.20	0.88	0.20	0.88	0.20	0.88	0.06	0.26
WSAC4	WSAC4	WSAC - Train 4	A-3	§106.371	--	--	--	--	--	--	--	--	--	--	0.64	2.79	0.28	1.22	1.28E-03	5.59E-03	--	--
T4FUG	T4FUG	Chiller Fugitives - Train 4	A-4	§106.373	0.08	0.36	--	--	0.08	0.36	--	--	--	--	--	--	--	--	--	--	--	--
T4FUG	T4FUG	Process Fugitives - Train 4	A-4	§106.261	1.06	4.64	1.06	4.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--
FLARE3	FLARE3	Routine Flare - Train 4 <sup>[1]</sup>	A-5	§106.261	0.04	3.24	--	3.18	--	--	1.12	2.51	4.46	9.99	--	--	--	--	--	--	4.77E-03	6.97E-03
§106.261 Total <sup>[1]</sup>							1.06	7.81	0.08	0.36	1.12	2.51	4.46	9.99							4.77E-03	6.97E-03
§106.261 Allowable							6	10	6	10	6	10	6	10							6	10
Less than §106.261 Allowable?							Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes							Yes	Yes
<b>MSS - Not Certified</b>																						
HTR5-MSS	HTR5	Regeneration Heater - Train 4	A-2	§106.263	0.20	2.40E-03	--	--	--	--	2.24	0.03	3.20	0.04	0.20	2.40E-03	0.20	2.40E-03	0.20	2.40E-03	0.06	7.06E-04
FLARE3-MSS	FLARE3	Flare 3 MSS - Train 4	E-6	§106.263	130.79	1.45	130.79	0.69	--	--	35.97	1.73	71.81	9.08	--	--	--	--	--	--	--	--
MSS FLARE	MSS FLARE	Portable Flare	E-6	§106.263	435.83	1.87	296.28	0.62	<100	1.25	118.38	0.52	236.34	2.09	--	--	--	--	--	--	--	--
MSS VCU	MSS VCU	Portable VCU	E-6	§106.263	435.83	1.87	296.28	0.62	<100	1.25	94.36	0.42	171.57	0.76	--	--	--	--	--	--	--	--
MSS-ATM	MSS-ATM	Miscellaneous MSS Activities	E-6	§106.263	11.91	0.02	10.16	0.02	11.91	5.96E-03	--	--	--	--	--	--	--	--	--	--	--	--
§106.263 MSS Emissions (Not Certified)						5.22		1.96		2.50		2.70		11.96		2.40E-03		2.40E-03		2.40E-03		7.06E-04
<b>Project Totals</b>																						
Certified + MSS Emissions						14.34		9.77		2.86		10.12		28.96		3.67		2.10		0.88		0.27
§106.4 Allowable						25		25		25		250		250		25		15		10		25
Is Each Facility Less than §106.4 Allowable?						Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes

[1] - Routine Flare emissions include purge gas and loading arm clearing. Loading arm clearing emissions are only included in annual total as there is no increase in hourly emissions requested.

**Table A-2**  
**Regeneration Heater Emission Rate Calculations (EPN: HTR5)**  
**EPOLP Houston Ship Channel Marine Loading Facility**  
**Enterprise Products Operating LLC**

**Routine Emissions**

EPN	Description	Maximum Design Heat Release (MMBtu/hr)	Maximum Operating Schedule (hr/yr)	Natural Gas Heating Value (Btu/scf)	Emission Factors <sup>[1]</sup> (lb/MMBtu)					Emission Rates <sup>[2]</sup> (lb/hr)					Emission Rates <sup>[3]</sup> (tpy)				
					NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	VOC
HTR5	Regeneration Heater - Train 4	40.0	8,760	1,020	0.028	0.040	0.0015	0.005	0.005	1.12	1.60	0.06	0.20	0.20	4.91	7.01	0.26	0.88	0.88
<b>Total</b>									<b>1.12</b>	<b>1.60</b>	<b>0.06</b>	<b>0.20</b>	<b>0.20</b>	<b>4.91</b>	<b>7.01</b>	<b>0.26</b>	<b>0.88</b>	<b>0.88</b>	

**Startup & Shutdown Emissions**

EPN	Description	Maximum Design Heat Release (MMBtu/hr)	Maximum Operating Schedule <sup>[4]</sup> (hr/yr)	Natural Gas Heating Value (Btu/scf)	Emission Factors <sup>[5]</sup> (lb/MMBtu)					Emission Rates (lb/hr)					Emission Rates (tpy)				
					NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	VOC
HTR5-MSS	Regeneration Heater - Train 4	40.0	24	1,020	0.056	0.08	0.0015	0.005	0.005	2.24	3.20	0.06	0.20	0.20	0.03	0.04	7.06E-04	2.40E-03	2.40E-03
<b>Total</b>									<b>2.24</b>	<b>3.20</b>	<b>0.06</b>	<b>0.20</b>	<b>0.20</b>	<b>0.03</b>	<b>0.04</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	

**Notes:**

- [1] NO<sub>x</sub>, CO, VOC, and PM emission factor provided by manufacturer. SO<sub>2</sub> emission factor is from AP-42, Tables 1.4-1 and 1.4-2 for small boilers and heaters. SO<sub>2</sub> emission factor has been adjusted by the ratio of 5,000 gr/MMscf to 2,000 gr/MMscf = 2.5
- Emission factors from AP-42 are in units of lb/MMscf; converted to lb/MMBtu by dividing by the natural gas heating value (1,020 Btu/scf).
- PM<sub>10</sub> = PM<sub>2.5</sub>
- [2] Emission rate (lb/hr) = Emission factor (lb/MMBtu) × Maximum Design Heat Release (MMBtu/hr)
- [3] Emission rate (tpy) = Emission factor (lb/MMBtu) × Maximum Design Heat Release (MMBtu/hr) × Maximum Operating Schedule (hr/yr) ÷ 2,000 lb/ton
- [4] Planned startup emissions for regeneration heaters include two startups per heater per month at higher NO<sub>x</sub> and CO emission factors for one hour per event.
- [5] Startup emission factors for NO<sub>x</sub> and CO are twice those for routine emissions.

**Conversions:**

2,000 lb/ton

Table A-3

WSAC™ System Emission Rate Calculations (EPNs: WSAC4)  
 EPOLP Houston Ship Channel Marine Loading Facility  
 Enterprise Products Operating LLC

EPN	Stream	[A] Circulating Water Flow <sup>[1]</sup> (gpm)	[B] Total Liquid Drift <sup>[1]</sup> (%)	[C] Max. Total Dissolved Solids <sup>[1]</sup>		[C] Ave. Total Dissolved Solids <sup>[1]</sup>		PM Emissions <sup>[2]</sup>		PM <sub>10</sub> Emissions <sup>[2]</sup>		PM <sub>2.5</sub> Emissions <sup>[2]</sup>	
				(mg/L)	(lb/gal)	(mg/L)	(lb/gal)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
WSAC4	Propylene	36,400	0.001	3,500	0.029	3,500	0.029	0.64	2.79	0.28	1.22	1.28E-03	5.59E-03

Particle Size Calculation

Size Bin ID	Typical Cooling Tower Droplet Size		Particle Size <sup>[3]</sup> (Dp, microns)
	EPRI Droplet Diameter <sup>[3]</sup> (Dd, microns)	EPRI Mass Distribution <sup>[3]</sup> (% Mass Smaller Than)	
1	10	0	1.17
2	20	0.196	2.33
3	30	0.226	3.50
4	40	0.514	4.67
5	50	1.816	5.84
6	60	5.702	7.00
7	70	21.348	8.17
8	90	49.812	10.51
9	110	70.509	12.84
10	130	82.023	15.18
11	150	88.012	17.51
12	180	91.032	21.01
13	210	92.468	24.52
14	240	94.091	28.02
15	270	94.689	31.52
16	300	96.288	35.02
17	350	97.011	40.86
18	400	98.34	46.70
19	450	99.071	52.53
20	500	99.071	58.37
21	600	100	70.04

PM2.5 %Mass  
0.20  
by linear Interpolation

PM10 %Mass  
43.64  
by linear Interpolation

$$D_p = D_d * [(p_d/pp) * (TDS [max]) / 1,000,000]^{1/3}$$

Reference: Reisman-Frisbie method<sup>[3]</sup>

where: Density of Water (pd) = 1 g/cm<sup>3</sup>  
 Density of TDS (pp) = 2.2 g/cm<sup>3</sup>

Notes:

[1] The maximum circulating water flow rate for both new units and total liquid drift (0.001%) are based on current design values. The maximum TDS content (3,500 mg/L or 0.029 lb/gal) is a conservative assumption based on previous analyses of feed water.

[2] PM<sub>10</sub> Emissions (lb/hr) = [A, gpm] \* [B, %] \* [C (max), lb/gal] \* PM10 %Mass \* 60 min/hr  
 PM<sub>10</sub> Emissions (tpy) = [A, gpm] \* [B, %] \* [C (ave), lb/gal] \* PM10 %Mass \* 60 min/hr \* 8,760 hr/yr / 2,000 lb/ton  
 PM<sub>2.5</sub> Emissions are calculated in the same way.

[3] "Calculating Realistic PM10 Emissions from Cooling Towers," Abstract No. 216, Session No. AM-1b, Joel Reisman and Gordon Frisbie, Greystone Environmental Consultants, Inc

**Table A-4**  
**Fugitive Emissions (EPN: T4FUG)**  
**EPOLP Houston Ship Channel Marine Loading Facility**

**Train 4 Fugitives (EPN: T4FUG)**

**Stream Type:** Propane

Component Type	Service	No. of Components	SOCMI without C <sub>2</sub>	28MID Control	Calculated Emission Rates <sup>[3]</sup>	
			Emission Factor <sup>[1]</sup> lb/hr-component	Efficiency <sup>[2]</sup> %	lb/hr	tpy
Valves	Gas/Vapor	1,171	0.0089	97	0.31	1.37
Valves	Light Liquid	3,099	0.0035	97	0.33	1.43
Pump	Light Liquid	9	0.0386	93	0.02	0.11
Flanges/Connectors	Gas/Vapor	2,862	0.0029	97	0.25	1.09
Flanges/Connectors	Light Liquid	6,474	0.0005	97	0.10	0.43
Relief Valves <sup>[4]</sup>	Gas/Vapor	--	0.2293	100	--	--
Compressors	Gas/Vapor	2	0.5027	95	0.05	0.22
<b>Total Unspeciated VOC</b>					<b>1.06</b>	<b>4.64</b>

**Propylene Refrigeration System Fugitives (EPN: T4FUG)**

**Stream Type:** Propylene

Component Type	Service	No. of Components	SOCMI without C <sub>2</sub>	28MID Control	Calculated Emission Rates <sup>[3]</sup>	
			Emission Factor <sup>[1]</sup> lb/hr-component	Efficiency <sup>[2]</sup> %	lb/hr	tpy
Valves	Gas/Vapor	36	0.0089	97	9.61E-03	0.04
Valves	Light Liquid	422	0.0035	97	0.04	0.19
Connectors	Gas/Vapor	154	0.0029	97	0.01	0.06
Connectors	Light Liquid	985	0.0005	97	0.01	0.06
Relief Valves	Gas/Vapor	7	0.2293	100	--	--
<b>Total Unspeciated VOC</b>					<b>0.08</b>	<b>0.36</b>

EPN	Chemical	Stream Composition	Speciated Emission Rates <sup>[5],[6]</sup>	
		Wt %	lb/hr	tpy
T4FUG	Propane	100%	1.06	4.64
T4FUG	Propylene	100%	0.08	0.36

**Notes:**

- [1] Factors from Table I in Appendix A of TCEQ Fugitive Guidance (APDG 6422v2, June 2018).
- [2] Control efficiencies based on 28MID Leak Detection and Repair Program. Relief valves are routed to flare for 100% control. Control of flanges/connectors is 97% because the site uses the 28CNTQ monitoring program.
- [3] Sample Calculations - Fugitive Emissions (Gas/Vapor Valves)  
 $1171 \text{ components} * 0.0089 \text{ lb/hr-component} * (1 - 97/100) = 0.3127 \text{ lb/hr}$   
 $0.3127 \text{ lb/hr} * 8,760 \text{ hr/yr} / 2,000 \text{ lb/ton} = 1.3694 \text{ tpy}$
- [4] Relief valves are routed to the flare for control.
- [5] Sample Speciated Calculations - Propane  
 $1.0587 \text{ lb/hr} * 100 \text{ Wt \% Propane} = 1.0587 \text{ lb/hr}$   
 $4.6373 \text{ tpy} * 100 \text{ Wt \% Propane} = 4.6373 \text{ tpy}$

**Table A-5**  
**Train 4 Flare Emission Rate Calculations (EPN: FLARE3) - Purge Gas**  
**EPOLP Houston Ship Channel Marine Loading Facility**

**I. Basis**

**Emission Factors**

VOC	5.5 lb/MMscf	(AP-42, Chapter 1.4 Natural Gas Combustion, Table 1.4-2)
NO <sub>x</sub>	0.1380 lb/MMBTU	(TCEQ Guidance for Flares and Vapor Oxidizers (RG-109) Table 4, October 2000)
SO <sub>2</sub>	0.6 lb/MMscf	(AP-42, Chapter 1.4 Natural Gas Combustion, Table 1.4-2)
CO	0.5496 lb/MMBTU	(TCEQ Guidance for Flares and Vapor Oxidizers (RG-109) Table 4, October 2000)

**Calculation Information**

Annual Operating Hours =	8,760 hr/yr
Flare Destruction Efficiency =	0.98 C4+
	0.99 C3-
Natural Gas HHV =	1,020 BTU/scf
Natural Gas Density =	0.044 lbs/scf
Heating Value of Propane =	2,275 Btu/scf

**II. Maximum Hourly Emissions**

Compound	HHV	Maximum Hourly Flow		Flare DRE	VOC Emissions	NO <sub>x</sub> Emissions	SO <sub>2</sub> Emissions	CO Emissions
	(MMBTU/hr)	Rate	Units	(%)	(lbs/hr)	(lbs/hr)	(lbs/hr)	(lbs/hr)
Natural Gas (Purge Gas)	8.11	350	lbs/hr	N/A	0.04	1.12	0.005	4.46
Propane			lbs/hr	99%	0.00			
<b>Total Flare Stream</b>				N/A	0.04	1.12	0.005	4.46

Example Calculations :

Purge Gas NO<sub>x</sub> Emissions =

$$8.11 \frac{\text{MMBtu}}{\text{hr}} * 0.138 \frac{\text{lbs NO}_x}{\text{MMBtu}} = 1.12 \frac{\text{lbs NO}_x}{\text{hr}}$$

Purge Gas VOC Emissions =

$$350 \frac{\text{lbs Natural Gas}}{\text{hr}} * \frac{1}{0.044} \frac{\text{scf NG}}{\text{lbs}} * 5.5 \frac{\text{lb VOC}}{\text{MMscf}} * \frac{1}{1,000,000} \frac{\text{MMscf}}{\text{scf}} = 0.04 \frac{\text{lbs VOC}}{\text{hr}}$$

Purge Gas SO<sub>2</sub> Emissions =

$$350 \frac{\text{lbs Natural Gas}}{\text{hr}} * \frac{1}{0.044} \frac{\text{scf NG}}{\text{lbs}} * 0.6 \frac{\text{lb SO}_2}{\text{MMscf}} * \frac{1}{1,000,000} \frac{\text{MMscf}}{\text{scf}} = 0.005 \frac{\text{lbs SO}_2}{\text{hr}}$$

**Table A-5**  
**Train 4 Flare Emission Rate Calculations (EPN: FLARE3) - Purge Gas**  
**EPOLP Houston Ship Channel Marine Loading Facility**

$$\text{Purge Gas CO Emissions} = 8.11 \frac{\text{MMBtu}}{\text{hr}} * 0.5496 \frac{\text{lbs CO}}{\text{MMBtu}} = 4.46 \frac{\text{lbs CO}}{\text{hr}}$$

### III. Annual Emissions

Compound	HHV	Average Annual Flow (1)		Flare DRE	VOC Emissions	NO <sub>x</sub> Emissions	SO <sub>2</sub> Emissions	CO Emissions
	(MMBTU/yr)	Rate	Units	(%)	(tpy)	(tpy)	(tpy)	(tpy)
Natural Gas (Purge Gas)	23691.82	1,022,000	lbs/yr	98%	0.06	1.63	0.01	6.51
<b>Total Flare Stream</b>	<b>23,692</b>			<b>N/A</b>	<b>0.06</b>	<b>1.63</b>	<b>0.01</b>	<b>6.51</b>

(1) Annual average flow based on existing refrigeration trains.

Example Calculations :

$$\text{Purge Gas NO}_x \text{ Emissions} = 23,692 \frac{\text{MMBtu}}{\text{yr}} * 0.138 \frac{\text{lbs NO}_x}{\text{MMBtu}} * \frac{1}{2,000} \frac{\text{ton}}{\text{lbs}} = 1.63 \frac{\text{tons NO}_x}{\text{yr}}$$

$$\text{Purge Gas VOC Emissions} = 1,022,000 \frac{\text{lbs Natural Gas}}{\text{yr}} * \frac{1}{0.044} \frac{\text{scf NG}}{\text{lbs}} * 5.5 \frac{\text{lb VOC}}{\text{MMscf}} * \frac{1}{1,000,000} \frac{\text{MMscf}}{\text{scf}} * \frac{1}{2,000} \frac{\text{ton}}{\text{lbs}} = 0.06 \frac{\text{tons VOC}}{\text{yr}}$$

$$\text{Purge Gas SO}_2 \text{ Emissions} = 1,022,000 \frac{\text{lbs Natural Gas}}{\text{yr}} * \frac{1}{0.044} \frac{\text{scf NG}}{\text{lbs}} * 0.6 \frac{\text{lb SO}_2}{\text{MMscf}} * \frac{1}{1,000,000} \frac{\text{MMscf}}{\text{scf}} * \frac{1}{2,000} \frac{\text{ton}}{\text{lbs}} = 0.01 \frac{\text{tons SO}_2}{\text{yr}}$$

$$\text{Purge Gas CO Emissions} = 23,692 \frac{\text{MMBtu}}{\text{yr}} * 0.5496 \frac{\text{lbs CO}}{\text{MMBtu}} * \frac{1}{2,000} \frac{\text{ton}}{\text{lbs}} = 6.51 \frac{\text{lbs CO}}{\text{hr}}$$

### IV. Additional Loading Activity Line Clearing Emissions

Liquid Purge to Flare per load            10 bbl/event (2)  
 Liquid Density                                    4.2 lb/gal  
 Emissions to flare                                1764 lb/event  
 Additional ships per year                      360 event/yr

Table A-5  
 Train 4 Flare Emission Rate Calculations (EPN: FLARE3) - Purge Gas  
 EPOLP Houston Ship Channel Marine Loading Facility

Compound	HHV	Average Annual Flow		Flare DRE	VOC Emissions	NO <sub>x</sub> Emissions	CO Emissions
	(MMBTU/yr)	Rate	Units	(%)	(tpy)	(tpy)	(tpy)
Propane		635,040	lbs/yr	99%	3.18		
<b>Total Flare Stream</b>	12,656			N/A	3.18	0.87	3.48

(2) Liquid purge to flare per event based on average loading activity.

V. Total Annual Emissions

Activity	VOC (tpy)	NO <sub>x</sub> (tpy)	SO <sub>2</sub> (tpy)	CO (tpy)
Purge Gas	0.06	1.63	0.01	6.51
Loading Line	3.18	0.87	0.00	3.48
<b>Total</b>	<b>3.24</b>	<b>2.51</b>	<b>0.01</b>	<b>9.99</b>

**Table A-6**  
**Propane Composition and Physical Properties**  
**EPOLP Houston Ship Channel Marine Loading Facility**

Temperature <sup>[1]</sup> 95 °F or 35.0 °C

Component	(vol%) <sup>[2]</sup>	Molecular Weight	Mole Fraction	Net Heating Value <sup>[3]</sup>	Antoine Coefficients			Vapor Pressure <sup>[4]</sup>	
		MW (lb/mol)	x	LHV (Btu/lb)	A	B	C	P <sub>sat</sub> (mmHg)	(psia)
Propane	100	44	1.000	19,929	15.7260	1,872.46	-25.16	9,007	174
Mixture	100	44		19,929					174.2

**Notes:**

[1] Suggested worst-case temperature according to TCEQ MSS Guidance document for Chemical Sources (dated September 7, 2012).

[2] Composition assumes 100% propane.

[3] Net heating values taken from Chemical Engineers' Handbook, Fifth Edition, Table 3-203

[4] The component vapor pressures in mmHg are calculated using the Antoine equation [ $P_{sat} \text{ (mmHg)} = \text{EXP}(A-B/(T^{\circ}\text{C}+273+C))$ ].

The component vapor pressures are then converted to psia [ $P_{sat} \text{ (psia)} = P_{sat} \text{ (mmHg)} / 760 \times 14.696$ ]. The vapor pressure of the mixture is calculated using Raoult's Law [ $P_{sat,mix} = \sum(x_i * P_{sat,i})$ ] where each component's vapor pressure is multiplied by it's mole fraction in the the mixture and summed.

**Table E-6**  
**Flare MSS Summary (EPNs: FLARE3-MSS, MSS FLARE, MSS VCU, and MSS-ATM)**  
**EPOLP Houston Ship Channel Marine Loading Facility**

Emissions authorized in internal 106.263 PBR. Included in this package for FNSR purposes.

Activity	Train	EPN	Pollutant	Annual Emissions (tpy)
Propane Dehydrator System Degas	Train 4	MSS-ATM	VOC	0.02
		MSS-ATM	Propane	0.02
		MSS FLARE	VOC	0.18
		MSS FLARE	Propane	0.18
		MSS FLARE	NO <sub>x</sub>	0.06
		MSS FLARE	CO	0.24
		MSS VCU	VOC	0.18
		MSS VCU	Propane	0.18
		MSS VCU	NO <sub>x</sub>	0.05
		MSS VCU	CO	0.09
Propane Dehydrator System Liquids	Train 4	MSS FLARE	VOC	0.44
		MSS FLARE	Propane	0.44
		MSS FLARE	NO <sub>x</sub>	0.12
		MSS FLARE	CO	0.49
		MSS VCU	VOC	0.44
		MSS VCU	Propane	0.44
		MSS VCU	NO <sub>x</sub>	0.10
		MSS VCU	CO	0.18
Propylene Refrigeration System Degassing	Train 4	MSS-ATM	VOC	5.96E-03
		MSS-ATM	Propylene	5.96E-03
		MSS FLARE	VOC	0.08
		MSS FLARE	Propylene	0.08
		MSS FLARE	NO <sub>x</sub>	0.03
		MSS FLARE	CO	0.11
		MSS VCU	VOC	0.08
		MSS VCU	Propylene	0.08
		MSS VCU	NO <sub>x</sub>	0.02
		MSS VCU	CO	0.04
Propylene Refrigeration System Liquids	Train 4	MSS FLARE	VOC	1.01
		MSS FLARE	Propylene	1.01
		MSS FLARE	NO <sub>x</sub>	0.27
		MSS FLARE	CO	1.09
		MSS VCU	VOC	1.01
		MSS VCU	Propylene	1.01
		MSS VCU	NO <sub>x</sub>	0.22
		MSS VCU	CO	0.40
Propylene Refrigeration System Startup	Train 4	MSS FLARE	VOC	0.16
		MSS FLARE	Propylene	0.16
		MSS FLARE	NO <sub>x</sub>	0.04
		MSS FLARE	CO	0.17
		MSS VCU	VOC	0.16
		MSS VCU	Propylene	0.16
		MSS VCU	NO <sub>x</sub>	0.03
		MSS VCU	CO	0.06
Pump Degassing	Train 4	FLARE3-MSS	VOC	0.05
		FLARE3-MSS	Propane	0.05
		FLARE3-MSS	NO <sub>x</sub>	0.01
		FLARE3-MSS	CO	0.06
Relief Valve Degassing	Train 4	MSS-ATM	VOC	3.16E-05
		MSS-ATM	Propane	3.16E-05

**Table E-6**  
**Flare MSS Summary (EPNs: FLARE3-MSS, MSS FLARE, MSS VCU, and MSS-ATM)**  
**EPOLP Houston Ship Channel Marine Loading Facility**

Emissions authorized in internal 106.263 PBR. Included in this package for FNSR purposes.

Activity	Train	EPN	Pollutant	Annual Emissions (tpy)
Line Degassing	Train 4	FLARE3-MSS	VOC	0.13
		FLARE3-MSS	Propane	0.13
		FLARE3-MSS	NO <sub>x</sub>	0.04
		FLARE3-MSS	CO	0.14
Pig Receiving	Train 4	FLARE3-MSS	VOC	0.01
		FLARE3-MSS	Propane	0.01
		FLARE3-MSS	NO <sub>x</sub>	3.26E-03
		FLARE3-MSS	CO	0.01
Meter Clearing	Train 4	FLARE3-MSS	VOC	0.07
		FLARE3-MSS	Propane	0.07
		FLARE3-MSS	NO <sub>x</sub>	0.02
		FLARE3-MSS	CO	0.07
Meter Proving	Train 4	FLARE3-MSS	VOC	0.43
		FLARE3-MSS	Propane	0.43
		FLARE3-MSS	NO <sub>x</sub>	0.12
		FLARE3-MSS	CO	0.48
Mole Sieve Dehy	Train 4	FLARE3-MSS	VOC	0.76
		FLARE3-MSS	NO <sub>x</sub>	1.54
		FLARE3-MSS	CO	8.31
Totals		FLARE3-MSS	VOC	1.45
		FLARE3-MSS	Propane	0.69
		FLARE3-MSS	NO <sub>x</sub>	1.73
		FLARE3-MSS	CO	9.08
		MSS FLARE	VOC	1.87
		MSS FLARE	Propane	0.62
		MSS FLARE	Propylene	1.25
		MSS FLARE	NO <sub>x</sub>	0.52
		MSS FLARE	CO	2.09
		MSS VCU	VOC	1.87
		MSS VCU	Propane	0.62
		MSS VCU	Propylene	1.25
		MSS VCU	NO <sub>x</sub>	0.42
		MSS VCU	CO	0.76
		MSS-ATM	VOC	0.02
		MSS-ATM	Propane	0.02
	MSS-ATM	Propylene	5.96E-03	

## APPENDIX B: FNSR APPLICABILITY ANALYSIS

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**Table 1F**  
**Air Quality Application Supplement**  
**Texas Commission on Environmental Quality**

Permit Number:	TBD							
Application Submittal Date:	Sep-24							
Company:	Enterprise Products Operating LLC							
Regulated Entity Number:	RN:	102580834						
Named Source (Y/N):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
City:	Houston							
County:	Harris							
Permit Activity:	<input type="checkbox"/> New Source <input checked="" type="checkbox"/> Modification							
Complete for all Pollutants with a Project Emission Increase.								
Questions	Ozone VOC	Ozone NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>	Other
Is nonattainment potentially applicable? (Y/N)	Yes	Yes	No	No	No	No	No	
Is PSD potentially applicable? (Y/N)	No	No	Yes	Yes	Yes	Yes	Yes	
Existing site PTE (tpy)?	>25	>25	<100	<100	<100	>100	<100	
Total project emissions increase (tpy from Table 2F)?	14.34	10.12	28.96	2.10	0.88	10.12	0.27	
Is the existing site a major source? (Y/N)	Yes	Yes	No	No	No	Yes	No	
If not, is the project a major source by itself? (Y/N)	No	No	No	No	No	No	No	
If site is major source, is the project increase significant? (Y/N)	Yes	Yes	No	No	No	No	No	
Net contemporaneous change, including proposed project, from Table 3F. (tpy)	21.43	18.09	--	--	--	--	--	
Major NSR Applicable? (Y/N)	No	No	No	No	No	No	No	
If netting required, estimated start of construction date (MM/DD/YR):				11/1/2024				
Beginning of Contemporaneous Period, 5 years prior to start of construction (MM/DD/YR):				11/1/2019				
End of Contemporaneous Period, the start of operation date (MM/DD/YR):				12/31/2025				

**Table 2F  
Project Emissions Increase Supplement Texas Commission on Environmental Quality**

Pollutant <sup>1</sup> :	VOC
Permit Number:	TBA
Baseline Period (Month and Year):	Jan-22
To Baseline Period (Month and Year):	Dec-23

<sup>1</sup> Individual Table 2F's should be used to summarize the project emissions increase for each criteria pollutant using the EPA's "substantially related" test to determine the scope of the project.

**New, Affected, or Modified Facilities<sup>2</sup>**

Item Number	FIN	EPN	Permit Number	Actual Emissions <sup>3</sup>	A Baseline Emissions <sup>4</sup>	B Proposed Potential to Emit Emissions <sup>5</sup>	C Projected Actual Emissions <sup>6</sup>	Difference, (B-A) or (C-A) <sup>7</sup>	Correction <sup>8</sup>	Project Emissions Increases <sup>9</sup>
1.	HTR5	HTR5	TBA	--	--	0.88	--	0.88	--	0.88
2.	T4FUG	T4FUG	TBA	--	--	5.00	--	5.00	--	5.00
3.	FLARE3	FLARE3	TBA	--	--	3.24	--	3.24	--	3.24
4.	FLARE3 MSS	FLARE3 MSS	TBA	--	--	1.45	--	1.45	--	1.45
5.	MSS FLARE	MSS FLARE	TBA	--	--	1.87	--	1.87	--	1.87
6.	MSS-VCU	MSS-VCU	TBA	--	--	1.87	--	1.87	--	1.87
7.	MSS-AMT	MSS-AMT	TBA	--	--	0.02	--	0.02	--	0.02
8.	MSS HTRS	MSS HTRS	TBA	--	--	<0.01	--	<0.01	--	<0.01
9.								--	--	--
<b>Total</b>							<b>Project</b>	<b>Emissions</b>	<b>Increase</b>	14.34

<sup>2</sup> Facility Identification Number (FIN) and Emission Point Number (EPN) as designated in NSR permit application or emission inventory.

<sup>3</sup> All records and calculations for these values must be available upon request.

<sup>4</sup> Correct actual emissions for currently applicable rule or permit requirements, and periods of non-compliance. These corrections, as well as any MSS previously demonstrated under 30 TAC 101, should be explained in the Table 2F supplement.

<sup>5</sup> Potential to Emit emissions are the current or proposed allowable emission rate. If Projected Actual Emissions are used for the source, they must be noted in the next column.

<sup>6</sup> Projected Actual Emissions are subject to 30 TAC 116.127 requirements and the basis for the projection identified in the Table 2F supplement.

<sup>7</sup> Proposed Potential to Emit (column B) or Projected Actual Emissions (Column C) minus Baseline Emissions (column A). New units must use Proposed Potential to Emit Emissions.

<sup>8</sup> Correction to be made to the Project Emission Increase for baseline actual emissions that could have accommodated or product demand growth during the baseline period, in accordance with 40 CFR 52.21(b)(41)(ii). Note, the could have accommodated or product demand growth correction may only be used with Projected Actual Emissions. The justification and basis for this estimate must be provided in the Table 2F supplement.

<sup>9</sup> Project Emissions Increase is obtained by subtracting the Correction column from the Difference column value. The number for each source may be positive or negative.

Pollutant:	VOC
Item Number:	4, 5
Type <sup>10</sup>	Incremental

**Explanation:**

Incremental emissions from FLARE3 associated with Train 4 sources.

<sup>10</sup> The type of note should provide additional clarifying information indicating if there was a baseline adjustment, the basis for projected actual, or the basis for correction (what could have been accommodated).

**Table 2F  
Project Emissions Increase Supplement Texas Commission on Environmental Quality**

Pollutant <sup>1</sup> :	NOx
Permit Number:	TBA
Baseline Period (Month and Year):	Jan-22
To Baseline Period (Month and Year):	Dec-23

<sup>1</sup> Individual Table 2F's should be used to summarize the project emissions increase for each criteria pollutant using the EPA's "substantially related" test to determine the scope of the project.

**New, Affected, or Modified Facilities<sup>2</sup>**

Item Number	FIN	EPN	Permit Number	Actual Emissions <sup>3</sup>	A Baseline Emissions <sup>4</sup>	B Proposed Potential to Emit Emissions <sup>5</sup>	C Projected Actual Emissions <sup>6</sup>	Difference, (B-A) or (C-A) <sup>7</sup>	Correction <sup>8</sup>	Project Emissions Increases <sup>9</sup>
1.	HTR5	HTR5	TBA	--	--	4.91	--	4.91	--	4.91
2.	FLARE3	FLARE3	TBA	--	--	2.51	--	2.51	--	2.51
3.	FLARE3 MSS	FLARE3 MSS	TBA	--	--	1.73	--	1.73	--	1.73
4.	MSS FLARE	MSS FLARE	TBA	--	--	0.52	--	0.52	--	0.52
5.	MSS-VCU	MSS-VCU	TBA	--	--	0.42	--	0.42	--	0.42
6.	MSS HTRS	MSS HTRS	TBA	--	--	0.03	--	0.03	--	0.03
7.								--	--	--
8.								--	--	--
9.								--	--	--
<b>Total</b>									<b>Project Emissions Increase</b>	10.12

<sup>2</sup> Facility Identification Number (FIN) and Emission Point Number (EPN) as designated in NSR permit application or emission inventory.

<sup>3</sup> All records and calculations for these values must be available upon request.

<sup>4</sup> Correct actual emissions for currently applicable rule or permit requirements, and periods of non-compliance. These corrections, as well as any MSS previously demonstrated under 30 TAC 101, should be explained in the Table 2F supplement.

<sup>5</sup> Potential to Emit emissions are the current or proposed allowable emission rate. If Projected Actual Emissions are used for the source, they must be noted in the next column.

<sup>6</sup> Projected Actual Emissions are subject to 30 TAC 116.127 requirements and the basis for the projection identified in the Table 2F supplement.

<sup>7</sup> Proposed Potential to Emit (column B) or Projected Actual Emissions (Column C) minus Baseline Emissions (column A). New units must use Proposed Potential to Emit Emissions.

<sup>8</sup> Correction to be made to the Project Emission Increase for baseline actual emissions that could have accommodated or product demand growth during the baseline period, in accordance with 40 CFR 52.21(b)(41)(ii). Note, the could have accommodated or product demand growth correction may only be used with Projected Actual Emissions. The justification and basis for this estimate must be provided in the Table 2F supplement.

<sup>9</sup> Project Emissions Increase is obtained by subtracting the Correction column from the Difference column value. The number for each source may be positive or negative.

Pollutant:	NOx
Item Number:	3, 4
Type <sup>10</sup>	Incremental

**Explanation:**

Incremental emissions from FLARE3 associated with Train 4 sources.

<sup>10</sup> The type of note should provide additional clarifying information indicating if there was a baseline adjustment, the basis for projected actual, or the basis for correction (what could have been accommodated).

**Table 2F  
Project Emissions Increase Supplement Texas Commission on Environmental Quality**

Pollutant <sup>1</sup> :	CO
Permit Number:	TBA
Baseline Period (Month and Year):	Jan-22
To Baseline Period (Month and Year):	Dec-23

<sup>1</sup> Individual Table 2F's should be used to summarize the project emissions increase for each criteria pollutant using the EPA's "substantially related" test to determine the scope of the project.

**New, Affected, or Modified Facilities<sup>2</sup>**

Item Number	FIN	EPN	Permit Number	Actual Emissions <sup>3</sup>	A Baseline Emissions <sup>4</sup>	B Proposed Potential to Emit Emissions <sup>5</sup>	C Projected Actual Emissions <sup>6</sup>	Difference, (B-A) or (C-A) <sup>7</sup>	Correction <sup>8</sup>	Project Emissions Increases <sup>9</sup>
1.	HTR5	HTR5	TBA	--	--	7.01	--	7.01	--	7.01
2.	FLARE3	FLARE3	TBA	--	--	9.99	--	9.99	--	9.99
3.	FLARE3 MSS	FLARE3 MSS	TBA	--	--	9.08	--	9.08	--	9.08
4.	MSS FLARE	MSS FLARE	TBA	--	--	2.09	--	2.09	--	2.09
5.	MSS-VCU	MSS-VCU	TBA	--	--	0.76	--	0.76	--	0.76
6.	MSS HTRS	MSS HTRS	TBA	--	--	0.04	--	0.04	--	0.04
7.								--	--	--
8.								--	--	--
9.								--	--	--
<b>Total</b>									<b>Project Emissions Increase</b>	28.96

<sup>2</sup> Facility Identification Number (FIN) and Emission Point Number (EPN) as designated in NSR permit application or emission inventory.

<sup>3</sup> All records and calculations for these values must be available upon request.

<sup>4</sup> Correct actual emissions for currently applicable rule or permit requirements, and periods of non-compliance. These corrections, as well as any MSS previously demonstrated under 30 TAC 101, should be explained in the Table 2F supplement.

<sup>5</sup> Potential to Emit emissions are the current or proposed allowable emission rate. If Projected Actual Emissions are used for the source, they must be noted in the next column.

<sup>6</sup> Projected Actual Emissions are subject to 30 TAC 116.127 requirements and the basis for the projection identified in the Table 2F supplement.

<sup>7</sup> Proposed Potential to Emit (column B) or Projected Actual Emissions (Column C) minus Baseline Emissions (column A). New units must use Proposed Potential to Emit Emissions.

<sup>8</sup> Correction to be made to the Project Emission Increase for baseline actual emissions that could have accommodated or product demand growth during the baseline period, in accordance with 40 CFR 52.21(b)(41)(ii). Note, the could have accommodated or product demand growth correction may only be used with Projected Actual Emissions. The justification and basis for this estimate must be provided in the Table 2F supplement.

<sup>9</sup> Project Emissions Increase is obtained by subtracting the Correction column from the Difference column value. The number for each source may be positive or negative.

Pollutant:	CO
Item Number:	1
Type <sup>10</sup>	Incremental

**Explanation:**

Incremental emissions from FLARE3 associated with additional line clearings as a result of increased loading operations.

<sup>10</sup> The type of note should provide additional clarifying information indicating if there was a baseline adjustment, the basis for projected actual, or the basis for correction (what could have been accommodated).

**Table 2F  
Project Emissions Increase Supplement Texas Commission on Environmental Quality**

Pollutant <sup>1</sup> :	PM10
Permit Number:	TBA
Baseline Period (Month and Year):	Jan-22
To Baseline Period (Month and Year):	Dec-23

<sup>1</sup> Individual Table 2F's should be used to summarize the project emissions increase for each criteria pollutant using the EPA's "substantially related" test to determine the scope of the project.

**New, Affected, or Modified Facilities<sup>2</sup>**

Item Number	FIN	EPN	Permit Number	Actual Emissions <sup>3</sup>	A Baseline Emissions <sup>4</sup>	B Proposed Potential to Emit Emissions <sup>5</sup>	C Projected Actual Emissions <sup>6</sup>	Difference, (B-A) or (C-A) <sup>7</sup>	Correction <sup>8</sup>	Project Emissions Increases <sup>9</sup>
1.	HTR5	HTR5	TBA	--	--	0.88	--	0.88	--	0.88
2.	WSAC4	WSAC4	TBA	--	--	1.22	--	1.22	--	1.22
3.	MSS HTRS	MSS HTRS	TBA	--	--	<0.01	--	<0.01	--	<0.01
4.								--	--	--
5.								--	--	--
6.								--	--	--
7.								--	--	--
8.								--	--	--
9.								--	--	--
<b>Total</b>									<b>Project Emissions Increase</b>	2.10

<sup>2</sup> Facility Identification Number (FIN) and Emission Point Number (EPN) as designated in NSR permit application or emission inventory.

<sup>3</sup> All records and calculations for these values must be available upon request.

<sup>4</sup> Correct actual emissions for currently applicable rule or permit requirements, and periods of non-compliance. These corrections, as well as any MSS previously demonstrated under 30 TAC 101, should be explained in the Table 2F supplement.

<sup>5</sup> Potential to Emit emissions are the current or proposed allowable emission rate. If Projected Actual Emissions are used for the source, they must be noted in the next column.

<sup>6</sup> Projected Actual Emissions are subject to 30 TAC 116.127 requirements and the basis for the projection identified in the Table 2F supplement.

<sup>7</sup> Proposed Potential to Emit (column B) or Projected Actual Emissions (Column C) minus Baseline Emissions (column A). New units must use Proposed Potential to Emit Emissions.

<sup>8</sup> Correction to be made to the Project Emission Increase for baseline actual emissions that could have accommodated or product demand growth during the baseline period, in accordance with 40 CFR 52.21(b)(41)(ii). Note, the could have accommodated or product demand growth correction may only be used with Projected Actual Emissions. The justification and basis for this estimate must be provided in the Table 2F supplement.

<sup>9</sup> Project Emissions Increase is obtained by subtracting the Correction column from the Difference column value. The number for each source may be positive or negative.

Pollutant:	PM10
Item Number:	
Type <sup>10</sup>	

**Explanation:**

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<sup>10</sup> The type of note should provide additional clarifying information indicating if there was a baseline adjustment, the basis for projected actual, or the basis for correction (what could have been accommodated).

**Table 2F  
Project Emissions Increase Supplement Texas Commission on Environmental Quality**

Pollutant <sup>1</sup> :	PM2.5
Permit Number:	TBA
Baseline Period (Month and Year):	Jan-22
To Baseline Period (Month and Year):	Dec-23

<sup>1</sup> Individual Table 2F's should be used to summarize the project emissions increase for each criteria pollutant using the EPA's "substantially related" test to determine the scope of the project.

**New, Affected, or Modified Facilities<sup>2</sup>**

Item Number	FIN	EPN	Permit Number	Actual Emissions <sup>3</sup>	A Baseline Emissions <sup>4</sup>	B Proposed Potential to Emit Emissions <sup>5</sup>	C Projected Actual Emissions <sup>6</sup>	Difference, (B-A) or (C-A) <sup>7</sup>	Correction <sup>8</sup>	Project Emissions Increases <sup>9</sup>
1.	HTR5	HTR5	TBA	--	--	0.88	--	0.88	--	0.88
2.	WSAC4	WSAC4	TBA	--	--	<0.01	--	<0.01	--	<0.01
3.	MSS HTRS	MSS HTRS	TBA	--	--	<0.01	--	<0.01	--	<0.01
4.								--	--	--
5.								--	--	--
6.								--	--	--
7.								--	--	--
8.								--	--	--
9.								--	--	--
<b>Total</b>						<b>Project</b>	<b>Emissions</b>	<b>Increase</b>		0.88

<sup>2</sup> Facility Identification Number (FIN) and Emission Point Number (EPN) as designated in NSR permit application or emission inventory.

<sup>3</sup> All records and calculations for these values must be available upon request.

<sup>4</sup> Correct actual emissions for currently applicable rule or permit requirements, and periods of non-compliance. These corrections, as well as any MSS previously demonstrated under 30 TAC 101, should be explained in the Table 2F supplement.

<sup>5</sup> Potential to Emit emissions are the current or proposed allowable emission rate. If Projected Actual Emissions are used for the source, they must be noted in the next column.

<sup>6</sup> Projected Actual Emissions are subject to 30 TAC 116.127 requirements and the basis for the projection identified in the Table 2F supplement.

<sup>7</sup> Proposed Potential to Emit (column B) or Projected Actual Emissions (Column C) minus Baseline Emissions (column A). New units must use Proposed Potential to Emit Emissions.

<sup>8</sup> Correction to be made to the Project Emission Increase for baseline actual emissions that could have accommodated or product demand growth during the baseline period, in accordance with 40 CFR 52.21(b)(41)(ii). Note, the could have accommodated or product demand growth correction may only be used with Projected Actual Emissions. The justification and basis for this estimate must be provided in the Table 2F supplement.

<sup>9</sup> Project Emissions Increase is obtained by subtracting the Correction column from the Difference column value. The number for each source may be positive or negative.

Pollutant:	PM2.5
Item Number:	
Type <sup>10</sup>	

**Explanation:**

<sup>10</sup> The type of note should provide additional clarifying information indicating if there was a baseline adjustment, the basis for projected actual, or the basis for correction (what could have been accommodated).

**Table 2F  
Project Emissions Increase Supplement Texas Commission on Environmental Quality**

Pollutant <sup>1</sup> :	SO2
Permit Number:	TBA
Baseline Period (Month and Year):	Jan-22
To Baseline Period (Month and Year):	Dec-23

<sup>1</sup> Individual Table 2F's should be used to summarize the project emissions increase for each criteria pollutant using the EPA's "substantially related" test to determine the scope of the project.

**New, Affected, or Modified Facilities<sup>2</sup>**

Item Number	FIN	EPN	Permit Number	Actual Emissions <sup>3</sup>	A Baseline Emissions <sup>4</sup>	B Proposed Potential to Emit Emissions <sup>5</sup>	C Projected Actual Emissions <sup>6</sup>	Difference, (B-A) or (C-A) <sup>7</sup>	Correction <sup>8</sup>	Project Emissions Increases <sup>9</sup>
1.	HTR5	HTR5	TBA	--	--	0.26	--	0.26	--	0.26
3.	FLARE3	FLARE3	TBA	--	--	<0.01	--	<0.01	--	<0.01
4.	MSS HTRS	MSS HTRS	TBA	--	--	<0.01	--	<0.01	--	<0.01
5.								--	--	--
6.								--	--	--
7.								--	--	--
8.								--	--	--
9.								--	--	--
10.								--	--	--
<b>Total</b>						<b>Project</b>	<b>Emissions</b>	<b>Increase</b>		0.27

<sup>2</sup> Facility Identification Number (FIN) and Emission Point Number (EPN) as designated in NSR permit application or emission inventory.

<sup>3</sup> All records and calculations for these values must be available upon request.

<sup>4</sup> Correct actual emissions for currently applicable rule or permit requirements, and periods of non-compliance. These corrections, as well as any MSS previously demonstrated under 30 TAC 101, should be explained in the Table 2F supplement.

<sup>5</sup> Potential to Emit emissions are the current or proposed allowable emission rate. If Projected Actual Emissions are used for the source, they must be noted in the next column.

<sup>6</sup> Projected Actual Emissions are subject to 30 TAC 116.127 requirements and the basis for the projection identified in the Table 2F supplement.

<sup>7</sup> Proposed Potential to Emit (column B) or Projected Actual Emissions (Column C) minus Baseline Emissions (column A). New units must use Proposed Potential to Emit Emissions.

<sup>8</sup> Correction to be made to the Project Emission Increase for baseline actual emissions that could have accommodated or product demand growth during the baseline period, in accordance with 40 CFR 52.21(b)(41)(ii). Note, the could have accommodated or product demand growth correction may only be used with Projected Actual Emissions. The justification and basis for this estimate must be provided in the Table 2F supplement.

<sup>9</sup> Project Emissions Increase is obtained by subtracting the Correction column from the Difference column value. The number for each source may be positive or negative.

Pollutant:	SO2
Item Number:	
Type <sup>10</sup>	

**Explanation:**

<sup>10</sup> The type of note should provide additional clarifying information indicating if there was a baseline adjustment, the basis for projected actual, or the basis for correction (what could have been accommodated).



**TABLE 3F  
PROJECT CONTEMPORANEOUS CHANGES<sup>1</sup>**

<b>Company:</b>	Enterprise Products Operating LLC	<b>Criteria Pollutant:</b>	NOx
<b>Permit Application Number:</b>	TBD		

Project Date <sup>2</sup>	Facility at Which Emission Change Occurred <sup>3</sup>		Permit No.	Project Name or Activity	Baseline Period (years)	A	B	Difference (A-B) <sup>6</sup> (tons/year)	Creditable Decrease or Increase <sup>7</sup> (tons/year)	
	FIN	EPN				Allowable Emissions <sup>4</sup> (tons/year)	Baseline Emissions <sup>5</sup> (tons/year)			
1	6/8/2020	FLARE2, FLARE3, and MSS VCU/MSS FLARE Cap	FLARE2, FLARE3, and MSS VCU/MSS FLARE Cap	161132	Flare Cap Increase	2018-2019	14.20	9.22	4.98	4.98
2	3/10/2021	FLARE2, FLARE3, and MSS VCU/MSS FLARE Cap	FLARE2, FLARE3, and MSS VCU/MSS FLARE Cap	97022	Incorporation of PBR 161132	--	14.20	14.20	0.00	0.00
3	6/18/2021	FLR2MSS	FLR2MSS	165217	Flare off gas recovery project	--	0.01	0.00	0.01	0.01
4	6/6/2022	HTR1	HTR1	97022	Amendment and Renewal	2013-2014	2.87	5.63	2.98	2.98
		HTR2	HTR2				2.87			
		HTR3	HTR3				2.87			
5	12/15/2023	HTR1, HTR2, HTR3	HTR1, HTR2, HTR3	174885	Heater Hourly Cap Increase	-- <sup>c</sup>	8.61	8.61	0.00	0.00
6	TBD	HTR5	HTR5	PBR TBD	PBR for Train 4	--	4.91	0.00	4.91	4.91
		FLARE3	FLARE3				2.51	0.00	2.51	2.51
		FLARE MSS	FLARE MSS				2.26	0.00	2.26	2.26
		MSS VCU	MSS VCU				0.42	0.00	0.42	0.42
		MSS-HTRS	MSS-HTRS				0.03	0.00	0.03	0.03
<b>Summary of Contemporaneous Changes</b>									<b>Total</b>	<b>18.09</b>

<sup>1</sup> Individual Table 3Fs should be used to summarize the project emission increase and net emission increase for each criteria pollutant.  
<sup>2</sup> The start of operation date for the modified or new facilities. Attach Table 4F for each project reduction claimed.  
<sup>3</sup> Emission Point No. as designated in NSR Permit or Emissions Inventory.  
<sup>4</sup> All records and calculations for these values must be available upon request.  
<sup>5</sup> All records and calculations for these values must be available upon request.  
<sup>6</sup> Allowable (column A) - Baseline (column B).  
<sup>7</sup> If portion of the decrease is not creditable, enter creditable amount. If all decrease is creditable or if this line is an increase, enter Column C again.  
<sup>8</sup> Sum all values for this page.



**TABLE 3F  
PROJECT CONTEMPORANEOUS CHANGES<sup>1</sup>**

<b>Company:</b>	Enterprise Products Operating LLC
<b>Permit Application Number:</b>	TBD
<b>Criteria Pollutant:</b>	VOC

Project Date <sup>2</sup>	Facility at Which Emission Change Occurred <sup>3</sup>		Permit No.	Project Name or Activity	Baseline Period (years)	A		B		Creditable Decrease or Increase <sup>7</sup> (tons/year)
	FIN	EPN				Allowable Emissions <sup>4</sup> (tons/year)	Baseline Emissions <sup>5</sup> (tons/year)	Difference (A-B) <sup>6</sup> (tons/year)		
1	12/5/2019	MIXFUG	MIXFUG	159074	Static Mixer Fugitives	N/A	0.04	0.00	0.04	0.04
2	6/8/2020	FLARE2, FLARE3, and MSS VCU/MSS FLARE Cap	FLARE2, FLARE3, and MSS VCU/MSS FLARE Cap	161132	Flare Cap Increase	2018-2019	36.75	31.77	4.98	4.98
3	3/10/2021	FLARE2, FLARE3, and MSS VCU/MSS FLARE Cap	FLARE2, FLARE3, and MSS VCU/MSS FLARE Cap	97022	Incorporation of PBR 161132	-- <sup>a</sup>	36.75	36.75	0.00	0.00
4	6/18/2021	FUG-OGR FLR2MSS	FUG-OGR FLR2MSS	165217	Flare off gas recovery project	-- <sup>b</sup>	0.38 0.01	0.00 0.00	0.38 0.01	0.38 0.01
5	6/6/2022	FUG	FUG	97022	Amendment and Renewal	2015-2016	0.38	0.00	0.38	0.38
		FUG2	FUG2				0.01	0.00	0.01	0.01
		HTR1	HTR1				0.38	0.38	0.00	0.00
		HTR2	HTR2				0.04	0.04	0.00	0.00
		HTR3	HTR3				0.44	0.83	0.49	0.49
6	12/15/2023	HTR1, HTR2, HTR3 CAP	HTR1, HTR2, HTR3 CAP	174885	Hourly Emissions Increases	-- <sup>c</sup>	1.32	1.32	0.00	0.00
7	TBD	FUG5 CT	FUG5 CT	175659	Rental Chiller and Cooling Tower	N/A N/A	0.68 2.10	0.00 0.00	0.68 2.10	0.68 2.10
8	TBD	HTR5	HTR5	PBR TBD	PBR for Train 4	N/A	0.88	0.00	0.88	0.88
		T4FUG	T4FUG				5.00	0.00	5.00	5.00
		FLARE3	FLARE3				3.24	0.00	3.24	3.24
		FLARE3 MSS	FLARE3 MSS				1.45	0.00	1.45	1.45
		FLARE MSS	FLARE MSS				1.87	0.00	1.87	1.87
		MSS-VCU	MSS-VCU				1.87	0.00	1.87	1.87
		MSS-ATM	MSS-ATM				0.03	0.00	0.03	0.03
		MSS HTRS	MSS HTRS				0.00	0.00	0.00	0.00
9	3/1/2024	FUG7	FUG7	175844	Dock 5 Fugitives	--	0.28	0.00	0.28	0.28
<b>Summary of Contemporaneous Changes</b>									<b>Total</b>	<b>21.43</b>

<sup>1</sup> Individual Table 3Fs should be used to summarize the project emission increase and net emission increase for each criteria pollutant.  
<sup>2</sup> The start of operation date for the modified or new facilities. Attach Table 4F for each project reduction claimed.  
<sup>3</sup> Emission Point No. as designated in NSR Permit or Emissions Inventory.  
<sup>4</sup> All records and calculations for these values must be available upon request.  
<sup>5</sup> All records and calculations for these values must be available upon request.  
<sup>6</sup> Allowable (column A) - Baseline (column B).  
<sup>7</sup> If portion of the decrease is not creditable, enter creditable amount. If all decrease is creditable or if this line is an increase, enter Column C again.  
<sup>8</sup> Sum all values for this page.

NOTES  
a- Baseline for flares addressed for Project 2.  
b- Baseline is zero because it was a new project. Less than 2 yrs operation.  
c- Baseline is addressed in project no. 5