Registration For Permit By Rule
Permit By Rule
§106.263, 106.355, 106.472, 106.478, 106.511, 106.532.

Bluewater Texas Terminal LLC
Aransas Pass, Nueces County, Texas

May 2019

DiSorbo
Environmental Consulting Firm

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Section 1
Project Information

1.1 Introduction

Bluewater Terminals LLC, (BT) plans to construct a pipeline booster station on Harbor Island near Aransas Pass, Nueces County, Texas. BT is submitting this permit-by-rule (PBR) registration to authorize the construction and operations of the following facilities; two crude oil storage tanks, two process water storage tanks, one diesel storage tank, wastewater treatment system, emergency engines, fugitive piping components and associated maintenance startup and shutdown activities. This PBR registration documentation provides all the information necessary to demonstrate that the proposed project is authorized under §106.4, §106.263, §106.355, §106.472, §106.478, §106.511, and §106.532.

1.2 Project Description

BT proposes to construct a booster station that will be used to increase the line pressure for two pipelines used to transfer crude oil to an offshore deepwater port located 18 statute miles off the shore of Port Aransas Texas. Four large crude pumps will be used to pump crude oil through each of the proposed pipelines. Two internal floating roof (IFR) crude oil storage tanks and two IFR process water storage tanks will be constructed to provide surge capacity for crude oil and process water. A wastewater treatment system will be constructed to treat collected stormwater runoff on site. Ancillary support equipment at the site will also include; an emergency diesel engine, diesel fire water pump and fixed roof diesel fuel storage tank. Fugitive piping components and maintenance activities associated with facilities being constructed with be authorized with the proposed permit by rule registration application.

Table 1-1, at the end of this section, presents a summary of the project emissions compared to Prevention of Significant Deterioration (PSD) applicability thresholds. As shown Table 1-1, the project emissions are below the major source thresholds for all pollutants; therefore, PSD permitting requirements do not apply to the facilities included in this application.

1.3 PBR Registration Organization

This application is organized into the following sections:

Section 1 presents the PBR registration objectives and organization.

Section 2 contains the TCEQ Registration form PI-7CERT, a Core Data Form, and applicable PBR checklists.

Section 3 contains an Area Map and Plot Plan showing the location of the equipment referenced in this submittal.

Section 4 contains a process description and a process flow diagram.

Section 5 contains a discussion of the estimated emissions.

Section 6 addresses applicability of the federal Nonattainment New Source Review (NNSR) and Prevention of Significant Deterioration (PSD) permitting requirements.

Section 7 outlines how the project meets the applicable PBR requirements.

Appendix A contains routine emission calculations.

Appendix B contains MSS emission calculations.

Appendix C contains the text of the applicable PBRs.

Table 1-1
NNSR/PSD Applicability Analysis Summary
Emissions Summary

EPN	Facility Description	Federal NSR Classification	VOC			NOx			CO			SO2		
			Baseline tpy	Proposed tpy	Project Increase tpy	Baseline tpy	Proposed tpy	Project Increase tpy	Baseline tpy	Proposed tpy	Project Increase tpy	Baseline tpy	Proposed tpy	Project Increase tpy
Storage Tank Cap	Storage Tanks 1 through 4	New	-	5.14	5.14	-	-	-	-	-	-	-	-	-
Tank-5	Storage Tank 5	New	-	1.33E-03	1.33E-03	-	-	-	-	-	-	-	-	-
WWT	Wastewater treatment system	New	-	2.74	2.74	-	-	-	-	-	-	-	-	-
FWP1	Fire Water Pump 1	New	-	0.13	0.13	-	0.13	0.13	-	0.11	0.11	-	0.04	0.04
EMGEN1	Emergency Engine 1	New	-	0.22	0.22	-	0.22	0.22	-	0.18	0.18	-	0.07	0.07
FUG	Fugitives	New	-	0.23	0.23	-	-	-	-	-	-	-	-	-
MSS	Maintenance Startup and Shutdown Emissions Cap	New	-	9.96	9.96	-	-	-	-	-	-	-	-	-
Project Increase (tpy)					***18.41***			***0.35***			***0.29***			***0.11***
Major Source Threshold (tpy)					***100***			***100***			***100***			***100***
Site Existing Major Source(Yes/No)					***No***			***No***			***No***			***No***
Netting Threshold (tons)					***NA***			***NA***			***NA***			***NA***
Netting Required (Yes/No)					***NA***			***NA***			***NA***			***NA***
Contemporaneous Period Change (tons)					***NA***			***NA***			***NA***			***NA***
Significant Modification Threshold (tons)					***NA***			***NA***			***NA***			***NA***
Federal Review Required (Yes/No)					***No***			***No***			***No***			***No***

Table 1-1
NNSR/PSD Applicability Analysis Summary
Emissions Summary

EPN	Facility Description	Federal NSR Classification	PM/PM10/PM2.5			H2S		
			Baseline	Proposed	Project Increase	Baseline	Proposed	Project Increase
			tpy	tpy	tpy	tpy	tpy	tpy
Storage Tank Cap	Storage Tanks 1 through 4	New	-	-	-	-	0.01	0.01
Tank-5	Storage Tank 5	New	-	-	-	-	-	-
WWT	Wastewater treatment system	New	-	-	-	-	-	-
FWP1	Fire Water Pump 1	New	-	0.01	0.01	-	-	-
EMGEN1	Emergency Engine 1	New	-	0.01	0.01	-	-	-
FUG	Fugitives	New	-	-	-	-	2.30E-06	2.30E-06
MSS	Maintenance Startup and Shutdown Emissions Cap	New	-	-	-	-	0.03	0.03
Project Increase (tpy)					***0.02***			***0.04***
Major Source Threshold (tpy)					***100***			***100***
Site Existing Major Source(Yes/No)					***No***			***No***
Netting Threshold (tons)					***NA***			***NA***
Netting Required (Yes/No)					***NA***			***NA***
Contemporaneous Period Change (tons)					***NA***			***NA***
Significant Modification Threshold (tons)					***NA***			***NA***
Federal Review Required (Yes/No)					***No***			***No***

Table 1-2
Emissions Summary
Bluewater Texas Terminals, LLC

EPN	FIN	Name	PBR	Appendix Tables	VOC		NO_X		CO		PM		PM_{10}		$PM_{2.5}$		SO_2		H_2S	
					lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Tank-1	Tank-1	Storage Tank-1	106.478	Table A-1	14.81	-	-	-	-	-	-	-	-	-	-	-	-	-	5.76E-04	-
Tank-2	Tank-2	Storage Tank-2	106.478	Table A-1	14.81	-	-	-	-	-	-	-	-	-	-	-	-	-	5.76E-04	-
Tank-3	Tank-3	Storage Tank-3	106.472	Table A-1	14.81	-	-	-	-	-	-	-	-	-	-	-	-	-	5.76E-04	-
Tank-4	Tank-4	Storage Tank-4	106.472	Table A-1	14.80	-	-	-	-	-	-	-	-	-	-	-	-	-	5.69E-04	-
TANKCAP	TANKCAP	IFR Storage Tank Cap	106.478 and 106.472	Table A-1	-	5.14	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01
Tank-5	Tank-5	Storage Tank-5	106.472	Table A-3	0.56	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WWT	WWT	Wastewater treatment plant	106.532	Table A-4	1.25	2.74	-	-	-	-	-	-	-	-	-	-	-	-	-	
FWP1	FWP1	Emergency Fire Water Pump Engine	106.511	Tabe A-5	1.32	0.13	1.32	0.13	1.10	0.11	0.07	0.01	0.07	0.01	0.07	0.07	0.41	0.04	-	-
EMGEN1	EMGEN1	Emergency Generator	106.511	Tabe A-5	1.78	0.22	4.43	0.22	3.69	0.18	0.22	0.01	0.22	0.01	0.22	0.01	1.37	0.07	-	-
FUG	FUG	Fugitives	106.472, 106.478, and 106.355	Table A-6	0.05	0.23	-	-	-	-	-	-	-	-	-	-	-	-	5.24E-07	2.30E-06
MSS CAP	MSS CAP	MSS Emissions	106.263 and 106.355	Table B-2	1309.48	9.96	-	-	-	-	-	-	-	-	-	-	-	-	8.94	0.03
Total Emission Rates:					**1373.66**	**18.41**	**5.76**	**0.35**	**4.79**	**0.29**	**0.29**	**0.02**	**0.29**	**0.02**	**0.29**	**0.08**	**1.78**	**0.11**	**8.95**	**0.04**
106.4 Limits:					-	25	-	250	-	250	-	25	-	15	-	10	-	25	-	25
Meets 106.4 Limit?					**-**	**Yes**	**-**	**Yes**	**-**	**Yes**	**-**	**Yes**	**-**	**Yes**	**-**	**Yes**	**-**	**Yes**	**-**	**Yes**

Section 2
Administrative Forms

This section contains the following forms and information:

- Form PI-7 CERT
- TCEQ Core Data Form
- 106.4 Checklist
- 106. 472 Checklist
- 106.478 Checklist
- 106.532 Checklist

Texas Commission on Environmental Quality
Registration for Permits by Rule (PBR)
Form PI-7

(Page 1)

I. Registrant Information		
A. Company or Other Legal Customer Name: **Bluewater Terminals LLC**		
B. Company Official Contact Information (☒ Mr. ☐ Mrs. ☐ Ms. ☐ Other:) _____		
Name: **Chintan Mehta**		
Title: **Senior Environmental Consultant**		
Mailing Address: **2331 City West Blvd.**		
City: **Houston**	State: **Texas**	ZIP Code: **77042**
Phone: **832-765-1677**	Fax:	
E-mail Address: c**hintan.mehta@p66.com**		
All PBR registration responses will be sent via e-mail.		
C. Technical Contact Information (☒ Mr. ☐ Mrs. ☐ Ms. ☐ Other:) _____		
Name: **Jesse Lovegren**		
Title: **Senior Staff Engineer**		
Company Name: **Disorbo Consulting, LLC**		
Mailing Address: **1001 Louisiana, Suite 3250**		
City: **Houston**	State: **Texas**	ZIP Code: **77002**
Phone: **512-961-4471**	Fax:	
E-mail: **JLovegren@disorboconsult.com**		
II. Facility and Site Information		
A. Name and Type of Facility		
Facility Name: **Harbor Island Booster Pump Station**		
Type of Facility: ☒ Permanent ☐ Temporary		
For portable units, please provide the serial number of the equipment being authorized below.		
Serial No:	Serial No:	

II. Facility and Site Information *(continued)*		
B. Facility Location Information		
Street Address:		
If there is no street address, provide written driving directions to the site and provide the closest city or town, county, and ZIP code for the site (attach description if additional space is needed).		
City:	County:	ZIP Code:
C. TCEQ Core Data Form		
Is the Core Data Form (TCEQ Form Number 10400) attached?		☒ YES ☐ NO
If "NO," provide customer reference number (CN) and regulated entity number (RN) below.		
Customer Reference Number (CN):		
Regulated Entity Number (RN):		
D. TCEQ Account Identification Number (if known):		
E. Type of Action		
☒ Initial Application ☐ Change to Registration		
For Change to Registration provide the Registration Number:		
F. PBR number(s) claimed under 30 TAC Chapter 106		
(List all the individual rule number(s) that are being claimed.)		
106.263	106.478	
106.355	106.511	
106.472	106.532	
G. Historical Standard Exemption or PBR		
Are you claiming a historical standard exemption or PBR?		☐ YES ☒ NO
If "YES," enter rule number(s) and associated effective date in the spaces provided below.		
Rule Number(s)	Effective Date	

II. Facility and Site Information *(continued)*	
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?	☐ YES ☒ NO
If "YES," enter previous standard exemption number(s) and PBR registration number(s), and associated effective date in the spaces provided below.	
Standard Exemption and PBR Registration Number(s)	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?	☐ YES ☒ 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)	Effective Date
J. Other Air Preconstruction Permits	
Are there any other air preconstruction permits at this site?	☐ YES ☒ NO
If "YES," enter permit number(s) in the spaces provided below.	
K. Affected Air Preconstruction Permits	
Does the PBR being claimed directly affect any permitted facility?	☐ YES ☒ NO
If "YES," enter the permit number(s) in the spaces provided below.	

II. Facility and Site Information *(continued)*	
L. Federal Operating Permit (FOP) Requirements (30 TAC Chapter 122 Applicability)	
Is this facility located at a site that is required to obtain an FOP pursuant to 30 TAC Chapter 122?	☐ YES ☒ NO ☐ To Be Determined
If the site currently has an existing FOP, enter the permit number:_____	
1. Check the requirements of 30 TAC Chapter 122 that will be triggered if this claim is accepted *(check all that apply)*.	
☐ Initial Application for an FOP ☐ Significant Revision for an SOP ☐ Minor Revision for an SOP	
☐ Operational Flexibility/Off Permit Notification for an SOP ☐ Revision for a GOP	
☐ To be Determined ☒ None	
2. Identify the type(s) of FOP issued and/or FOP application(s) submitted/pending for the site. (*check all that apply*)	
☐ SOP ☐ GOP ☐ GOP application/revision (submitted or under APD review)	
☐ N/A ☐ SOP application/revision (submitted or under APD review)	
III. Fee Information *(see Section VII. for address to send fee or go to www.tceq.texas.gov/epay to pay online)*	
A. Fee Requirements	
Is a fee required per 30 TAC § 106.50?	☒ YES ☐ NO
If "NO," specify the exception. There are three exceptions to paying a PBR fee.	*(check all that apply)*
1. Registration is solely to establish a federally enforceable emission limit.	☐
2. Registration is within six months of an initial PBR review, and is addressing deficiencies, administrative changes, or other allowed changes.	☐
3. Registration is for a remediation project (30 TAC § 106.533).	☐
B. Fee Amount	
1. A $100 fee is required if *any* of the answers in III.B.1 are "YES."	
This business has less than 100 employees.	☒ YES ☐ NO
This business has less than 6 million dollars in annual gross receipts.	☐ YES ☒ NO
This registration is submitted by a governmental entity with a population of less than 10,000.	☐ YES ☒ NO
This registration is submitted by a non-profit organization.	☐ YES ☒ NO
2. A $450 fee is required for all other registrations.	

III. Fee Information *(see Section VII. for address to send fee or go to www.tceq.texas.gov/epay to pay online)* ***(continued)***		
C. Payment Information		
Check/money order/transaction or voucher number:		
Individual or company name on check:		
Fee Amount: $ 450		
Was fee paid online?		☒ YES ☐ NO
IV. Selected Facility Reviews and Voluntary Registrations *Only*		
Note: If registering any of the PBRs listed in IV.B., or if voluntarily registering any other PBR(s), complete this section, then skip to Section VI. below:		
A. List any PBRs that are being voluntarily registered.		
106.263	106.472	106.511
106.355	106.478	106.532
B. PBR Checklists		
If you are registering any of the following PBRs, did you attach the applicable PBR checklists that shows your facility meets all general and specific requirements? • *Animal Feeding Operations § 106.161, Livestock Auction Facilities § 106.162, Saw Mills § 106.223, Grain Handling, Storage and Drying § 106.283, Auto Body Refinishing Facilities § 106.436,* or *Air Curtain Incinerator § 106.496* (If "NO" then you ***must*** provide ***all*** technical information outlined in Section V.)		☐ YES ☒ NO
C. Distances to Property Line and Nearest Off-Property Structure		
Distance from this facility's emission release point to the nearest property line:		1000 feet
Distance from this facility's emission release point to the nearest off-property structure:		1200 feet

V. Technical Information Including State and Federal Regulatory Requirements **Check the appropriate box to indicate what is included in your submittal.** ***NOTE:*** *Any technical or essential information needed to confirm that facilities are meeting the requirements of the PBR must be provided. Not providing key information could result in an automatic deficiency and voiding 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?		☒ YES ☐ NO
Did you demonstrate that the individual requirements of the specific PBR are met?		☒ YES ☐ NO
B. Confidential Information Included (If confidential information is submitted with this registration, all confidential pages must be properly marked "CONFIDENTIAL.")		☐ YES ☐ NO
C. Process Flow Diagram		☒ YES ☐ NO
D. Process Description		☒ YES ☐ NO
E. Maximum Emissions Data and Calculations		☒ YES ☐ NO
Note: *If the facilities listed in this registration are subject to the Mass Emissions Cap & Trade program under* ***30 TAC Chapter 101, Subchapter H, Division 3****, the owner/operator of these facilities must possess NO_x allowances equivalent to the actual NO_x emissions from these facilities.*		
F. Distance from Property Line and Nearest Off-Property Structure		
Distance from this facility's emission release point to the nearest property line:		**1000 feet**
Distance from this facility's emission release point to the nearest off-property structure:		**1200 feet**
G. Project Status		
Has the company implemented the project or waiting on a response from TCEQ?		☐ Implemented ☐ Waiting
H. Projected Start of Construction and Projected Start of Operation Dates: TBD		
Projected Start of Construction (provide date): **TBD**		
Project Start of Operation (provide date): **TBD**		
VI. Delinquent Fees and Penalties		
This form **will not be processed** until all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ is paid in accordance with the Delinquent Fee and Penalty Protocol. For more information regarding Delinquent Fees and Penalties, go to the TCEQ website at www.tceq.texas.gov/agency/delin/index.html.		

VII. Copies of the Registration		
Processing delays may occur if copies are not sent as noted. Copies must be sent as listed below:		
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 of Form PI-7, Core Data Form, and all attachments. Not required if using ePermits[1]
Revenue Section, TCEQ	Regular, Certified, Priority Mail MC 214, P.O. Box 13088 Austin, Texas 78711-3088 Hand Delivery, Overnight Mail MC 214, 12100 Park 35 Circle, Building A, Third Floor Austin, Texas 78753	Original Money Order or Check, Copy of Form PI-7, and Core Data Form. Not required if fee was paid using ePay[2].
Appropriate TCEQ Regional Office	To find your Regional Office address, go to the TCEQ website at www.tceq.texas.gov/publications/gi/gi-002.html or call (512) 239-1250.	Copy of Form PI-7, Core Data Form, and all attachments. Not required if using ePermits[1].
Appropriate Local Air Pollution Control Program(s)	To Find your local or Regional Air Pollution Control Programs go to the TCEQ, APD website at www.tceq.texas.gov/permitting/air/local_programs.html or call (512) 239-1250	Copy of Form PI-7, Core Data Form, and all attachments

[1] ePermits located at www3.tceq.texas.gov/steers/
[2] ePay located at www.tceq.texas.gov/epay/

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided.)*

☒ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.)*

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN		RN

SECTION II: Customer Information

4. General Customer Information	5. Effective Date for Customer Information Updates (mm/dd/yyyy)	

☒ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership

☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)*	*If new Customer, enter previous Customer below:*

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*

11. Type of Customer:	☐ Corporation	☐ Individual	Partnership: ☐ General ☒ Limited
Government: ☐ City ☐ County ☐ Federal ☐ State ☐ Other		☐ Sole Proprietorship	☐ Other:

12. Number of Employees	13. Independently Owned and Operated?
☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher	☒ Yes ☐ No

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following:*

☐ Owner ☐ Operator ☒ Owner & Operator

☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:							
	City		State		ZIP	ZIP + 4	

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
( ) -		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)*

☐ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC.)

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

23. Street Address of the Regulated Entity: *(No PO Boxes)*								
	City		State		ZIP		ZIP + 4	
24. County								

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:					
26. Nearest City			State		Nearest ZIP Code
27. Latitude (N) In Decimal:			28. Longitude (W) In Decimal:		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)	31. Primary NAICS Code (5 or 6 digits)	32. Secondary NAICS Code (5 or 6 digits)
4612		486110	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

crude oil transportation

34. Mailing Address:								
	City		State		ZIP		ZIP + 4	
35. E-Mail Address:								

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
( ) -		( ) -

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☒ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Jesse Lovegren	41. Title:	Senior Staff Engineer

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(512) 961-4471		( ) -	Jlovegren@disorboconsult.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Bluewater Terminals LLC	Job Title:	
Name*(In Print)* :	Manny Cortez	Phone:	( ) -
Signature:		Date:	

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.

1. 30 TAC § 106.4(a)(1) and (4): Emission Limits	
List emissions in tpy for **each** facility (add additional pages or table if needed):	
• Are the SO_2, PM, VOC, or other air contaminant emissions claimed for **each** facility in this PBR submittal less than 25 tpy?	☒ YES ☐ NO
• Are the PM_{10} emission less than 15 TPY and are the $PM_{2.5}$ emissions less than 10 TPY for **each** claimed facility in the PBR submittal?	☒ YES ☐ NO
• Are the NO_x and CO emissions claimed for each facility in this PBR submittal less than 250 tpy?	☒ YES ☐ NO
*If the answer to both is "Yes," continue to the question below. If the answer to either question is "No," a **PBR cannot be claimed**.*	
• Has any facility at the property had public notice and opportunity for comment under 30 TAC Section 116 for a regular permit or permit renewal? (This does not include public notice for voluntary emission reduction permits, grandfathered existing facility permits, or federal operating permits.)	☐ YES ☒ NO
If "Yes," skip to Section 2. If "No," continue to the questions below.	

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

1. 30 TAC § 106.4(a)(1) and (4): Emission Limits *(continued)*	
If the site has had no public notice, please answer the following:	
• Are the SO_2, PM_{10}, VOC, or other emissions claimed for **all** facilities in this PBR submittal less than 25 tpy?	☒ YES ☐ NO
• Are the PM_{10} emission less than 15 TPY and are the $PM_{2.5}$ emissions less than 10 TPY for **all** claimed facilities in this PBR submittal?	☒ YES ☐ NO
• Are the NO_x and CO emissions claimed for **all** facilities in this PBR submittal less than 250 tpy?	☒ YES ☐ NO
If the answer to both questions is "Yes," continue to Section 2.	
*If the answer to either question is "No," **a PBR cannot be claimed**. A permit will be required under Chapter 116.*	
2. 30 TAC § 106.4(a)(2): Nonattainment Check	
• Are the facilities to be claimed under this PBR located in a designated ozone nonattainment county?	☐ YES ☒ NO
If "Yes," please indicate which county by checking the appropriate box to the right.	
(Moderate) - Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller counties:	☐ HGB
(Moderate) - Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise counties:	☐ DFW
If "Yes," to any of the above, continue to the next question. If "No," continue to Section 3.	
• Does this project trigger a nonattainment review?	☐ YES ☐ NO
• Is the project's potential to emit (PTE) for emissions of VOC or NO_x increasing by 100 tpy or more? *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.*	☐ YES ☐ NO
• Is the site an existing major nonattainment site and are the emissions of VOC or NO_x increasing by 40 tpy or more?	☐ YES ☐ NO
If needed, attach contemporaneous netting calculations per nonattainment guidance.	
Additional information can be found at: www.tceq.texas.gov/permitting/air/forms/newsourcereview/tables/nsr_table8.html and www.tceq.texas.gov/permitting/air/nav/air_docs_newsource.html	
*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.*	

3. 30 TAC § 106.4(a)(3): Prevention of Significant Deterioration (PSD) Check	
Does this project trigger a review under PSD rules?	
To determine the answer, review the information below:	
• Are emissions of any regulated criteria pollutant increasing by 100 tpy of any criteria pollutant at a named source?	☐ YES ☒ NO
• Are emissions of any criteria pollutant increasing by 250 tpy of any criteria pollutant at an unnamed source?	☐ YES ☒ NO
• Are emissions increasing above significance levels at an existing major site?	☐ YES ☒ NO
PSD information can be found at: www.tceq.texas.gov/assets/public/permitting/air/Forms/NewSourceReview/Tables/10173tbl.pdf and www.tceq.texas.gov/permitting/air/nav/air_docs_newsource.html *If "Yes," to any of the above, **a PBR may not be used**. A PSD Permit review must be completed to authorize the project.* *If "No," continue to Section 4.*	
4. 30 TAC § 106.4(a)(6): Federal Requirements	
• Will all facilities under this PBR meet applicable requirements of Title 40 Code of Federal Regulations (40 CFR) Part 60, New Source Performance Standards (NSPS)?	☒ YES ☐ NO ☐ NA
If "Yes," which Subparts are applicable?	
Kb and IIII	
• Will all facilities under this PBR meet applicable requirements of 40 CFR Part 63, Hazardous Air Pollutants Maximum Achievable Control Technology (MACT) standards?	☐ YES ☐ NO ☒ NA
If "Yes," which Subparts are applicable?	
• Will all facilities under this PBR meet applicable requirements of 40 CFR Part 61, National Emissions Standards for Hazardous Air Pollutants (NESHAPs)?	☐ YES ☐ NO ☒ NA
If "Yes," which Subparts are applicable?	
If "Yes" to any of the above, please attach a discussion of how the facilities will meet any applicable standards.	

Texas Commission on Environmental Quality
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Title 30 Texas Administrative Code § 106.4

5. 30 TAC § 106.4(a)(7): PBR Prohibition Check	
• Are there any air permits at the site containing conditions which prohibit or restrict the use of PBRs?	☐ YES ☒ NO
If "Yes," PBRs may not be used or their use must meet the restrictions of the permit. A new permit or permit amendment may be required.	
• *List permit number(s):*	
6. 30 TAC § 106.4(a)(8): NO_x Cap and Trade	
• Is the facility located in Harris, Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery, or Waller County?	☐ YES ☒ NO
If "Yes," answer the question below. If "No," continue to Section 7.	
• Will the proposed facility or group of facilities obtain required allowances for NO_x if they are subject to 30 TAC Chapter 101, Subchapter H, Division 3 (relating to the Mass Emissions Cap and Trade Program)?	☐ YES ☐ NO
7. Highly Reactive Volatile Organic Compounds (HRVOC) Check	
• Is the facility located in Harris County?	☐ YES ☒ NO
If "Yes," answer the next question. If "No," skip to the box below.	
• Will the project be constructed after June 1, 2006?	☐ YES ☐ NO
If "Yes," answer the next question. If "No," skip to the box below.	
• Will one or more of the following HRVOC be emitted as a part of this project?	☐ YES ☐ NO
If "Yes," complete the information below:	

	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 transisomers)		
► ethylene		
► propylene		

7. **Highly Reactive Volatile Organic Compounds (HRVOC) Check *(continued)***		
• Is the facility located in Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery, or Waller County?		☐ YES ☒ NO
If "Yes," answer the next question. If "No," the checklist is complete.		
• Will the project be constructed after June 1, 2006?		☐ YES ☐ NO
If "Yes," answer the next question. If "No," the checklist is complete.		
• Will one or more of the following HRVOC be emitted as a part of this project?		☐ YES ☐ NO
If "Yes," complete the information below:		
	lb//hr	**tpy**
► ethylene		
► propylene		

Exemption § 106.472 Checklist
(Previously Standard Exemption 51)
Organic Liquid Loading and Unloading

The following checklist is designed to help you confirm that you meet § 106.472, previously Standard Exemption 51 (STDX 51), requirements. **Any "no" answers indicate that the claim of registration may not meet all requirements for the use of Exemption § 106.472, previously Standard Exemption 51.** If you do not meet all the requirements, you may alter the project design/operation in such a way that all the requirements of the exemption are met, or obtain a construction permit.

For additional assistance with your application, including resources to help calculate your emissions, please visit the Small Business and Local Government Assistance (SBLGA) webpage at the following link: www.TexasEnviroHelp.org

Please Complete The Following:			
Have you included a description of how this exemption claim meets the general rule for the use of exemptions (§ 106, Subchapter A checklist is available)?	☒ YES	☐ NO	☐ N/A
Are all the facilities claimed for exemption specifically named in the general section of § 106.472, previously STDX 51?	☒ YES	☐ NO	☐ N/A
[**Note:** *This exemption has been interpreted to allow mixing or blending but not chemical reaction in tankage.*]			
Is the equipment designed to prevent visible emissions?	☐ YES	☐ NO	☒ N/A
Are all the chemicals to be loaded, unloaded, or stored described in §106.472 (previously STDX 51a-i)?	☒ YES	☐ NO	☐ N/A
Attach a list of the chemicals and identify the appropriate item of § 106.472, previously STDX 51 that applies.			
Include additional supporting data. For example, a § 106.472, previously STDX 51(i), claim should identify initial boiling points of all compounds to be covered.			
Will aqueous ammonia solutions, hydrochloric acid, or acetic acid be vented through a water scrubber?	☐ YES	☐ NO	☒ N/A
Are facilities loading, unloading, or storing butyric acid, isobutyric acid, methacrylic acid, mercaptans, croton oil, 2-methyl styrene, or any other compound with an initial boiling point of 300 degrees F or greater listed in 40 CFR 261, Appendix VIII, located at least 500 feet from any recreational area or residence or other structure not occupied or used solely by the owner or operator of the facility or the owner of the property upon which the facility is located?	☐ YES	☒ NO	☐ N/A
List these compounds and show their handling location on an attached scaled plot plan.			

Texas Commission on Enviromental Quality
Storage Tank and Change of Service
Air Permits by Rule (PBR) Checklist
Title 30 Texas Administrative Code § 106.478

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 rule number. The permit by rule (PBR) forms, tables, checklists, and guidance documents are available from the Texas Commission on Environmental Quality (TCEQ), Air Permits Division website at: www.tceq.texas.gov/permitting/air/nav/air_pbr.html.

This PBR (§ 106.478) requires registration for storage tanks with a capacity of 25,000 gallons or greater and located in a designated ozone non-attainment area with the commission's Office of Air in Austin before construction begins. The registration shall include a list of all tanks, calculated emissions for each compound in tons per year for each tank, and a Table 7 for each different tank design. The facility may be registered by completing Form PI-7, "Registration for Permits by Rule," or Form PI-7-CERT, "Registration and Certification for Permits by Rule." This checklist should accompany the registration form.

For additional assistance with your application, including resources to help calculate your emissions, please visit the Small Business and Local Government Assistance (SBLGA) webpage at the following link: www.TexasEnviroHelp.org

Questions/Description and Response	
Rule	**Applicability**
(7)	What is the capacity of the tank? 7,980,000 gallons
(1)	Is the tank located at least 500 feet from the nearest recreational area, residence, or other structure not occupied or used solely by the owner of the facility or the owner of the property? ☒ YES ☐ NO
Indicate the tank location from the nearest recreational area, residence, or other structure not occupied or used solely by the owner of the facility or the owner of the property: >500 feet	
(2)	Is the true vapor pressure of the compound being stored less than 11.0 psia? ☒ YES ☐ NO
Indicate the true vapor pressure: 10.9 psia	
(3)(A)	Will any storage tank with a capacity of 40,000 gallons or more used to store compounds with a true vapor pressure greater than 0.5 psia and less than 11.0 psia be equipped with an internal floating cover or equivalent control? ☒ YES ☐ NO ☐ N/A
Check the type of tank and control method used: ☒ Internal floating roof tank. ☐ External floating roof tank using double seal technology with a primary mechanical shoe seal. ☐ External floating roof tank using double seal technology with a primary liquid-mounted seal. ☐ An existing open top floating roof tank having a vapor-mounted primary seal, which is undergoing a change of service.	

Texas Commission on Enviromental Quality
Storage Tank and Change of Service
Air Permits by Rule (PBR) Checklist
Title 30 Texas Administrative Code § 106.478

Questions/Description and Response		
Rule	**Applicability**	
(3)(B)	Does the floating roof or floating cover design of the tank incorporate sufficient flotation to conform to the requirements of American Petroleum Institute (API) Code 650, Appendix C or an equivalent degree of flotation?	☒ YES ☐ NO
Note: *If using an equivalent degree of flotation, please describe how the method used is equivalent to API Code 650, Appendix C.*		
(4)	If the compounds have a true vapor pressure of 0.5 psia or less at the maximum storage temperature, will each fixed or cone roof be equipped with a submerged fill pipe or use bottom loading?	☐ YES ☐ NO ☒ N/A
Indicate the loading method: ☒ submerged fill pipe ☐ bottom loading		
(5)	Is each fixed or cone roof tank not equipped with an internal floating roof painted chalk white, except where a dark color is necessary to help the tank absorb or retain heat in order to maintain the material in the tank in a liquid state?	☒ YES ☐ NO
(6)	Have the tank emissions been calculated using the methods specified in Section 4.3 of the United States Protection Agency Publication AP-42	☒ YES ☐ NO
(7)	If the capacity of the tank is 25,000 gallons or more, have you provided Form PI-7 or Form PI-7-CERT as part of this registration request?	☒ YES ☐ NO
☒ Form PI-7 ☐ Form PI-7-CERT		
(8)	Are the chemicals or mixtures of chemicals to be stored limited to those shown in Table 478?	☒ YES ☐ NO
If "NO," answer the next question.		
(8)	Do mixtures of chemicals listed in Table 478 contain more than a total of 1.0% percent by volume of all other chemicals not listed in Table 478?	☐ YES ☒ NO
If "YES," the facility does not qualify for this PBR.		
Indicate the actual percentage by volume of all unlisted chemicals:		

Chemical Name:	Percent Composition (percent):

Texas Commission on Enviromental Quality
Storage Tank and Change of Service
Air Permits by Rule (PBR) Checklist
Title 30 Texas Administrative Code § 106.478

Questions/Description and Response	
Other Applicable Rules and Regulations	
Is this facility subject to 30 TAC §§ 115.112-119?	☐ YES ☒ NO
Why or Why Not: The site is located in Corpus Christi.	
Is this facility subject to 30 TAC §§ 115.120-129?	☐ YES ☒ NO
Why or Why Not: The site is located in Corpus Christi.	
Is this facility subject to 40 CFR Part 60, NSPS Subpart K?	☐ YES ☒ NO
Why or Why Not: Construction or modification was not commenced prior to 5/19/78.	
Is this facility subject to 40 CFR Part 60, NSPS Subpart Kb?	☒ YES ☐ NO
Why or Why Not: Storage tank capacity is > 39,900 gallons and the maximum true vapor pressure >.5 psia.	
Is this facility subject to 40 CFR Part 60, NSPS Subpart NNN?	☐ YES ☒ NO
Why or Why Not: Facilities are not a part of a process unit that produces the affected chemical.	

Record Keeping: There are no additional record keeping requirements other than the general requirements specified in 30 TAC § 106.8. The records must be made available immediately upon request to the commission or any air pollution control program having jurisdiction. If you have any question about the type of records that should be maintained, contact the Air Program in the TCEQ Regional Office for the region in which the site is located.

Recommended Calculation Methods: In order to demonstrate compliance with this PBR, the registrant may use the emission factors for each air contaminant from the EPA Compilation of Air Pollutant Emission Factors (AP-42), Fifth Edition, Volume I, Chapter 7: "Liquid Storage Tanks" at: www.epa.gov/ttn/chief/ap42/index.html. The registrant may also use the calculation method for storage tanks that store chemical compounds as described in the TCEQ guidance for "Storage Tanks" at: www.tceq.texas.gov/permitting/air/guidance/newsourcereview/tanks/nsr_fac_tanks.html.

Exemption § 106.532 Checklist
(Previously Standard Exemption 61)
Water and Waste Water Treatment Units

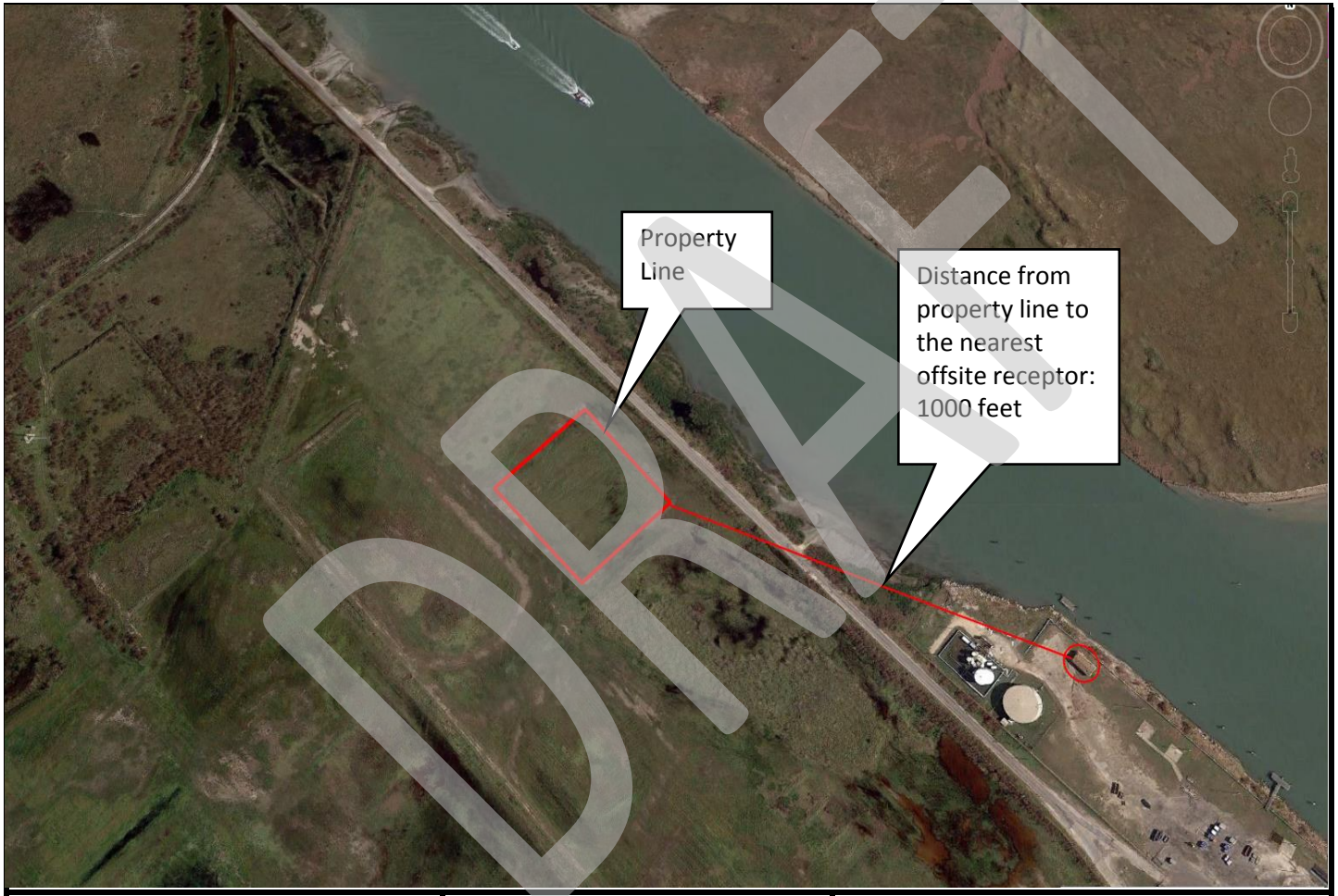
The following checklist has been designed to help you confirm that you meet Exemption § 106.532, previously standard exemption 61 (STDX 61), requirements. **Any "No" answers indicate that the claim of exemption may not meet all requirements for the use of Exemption § 106.532, previously standard exemption 61.** If you do not meet all the requirements, you may alter the project design/operation in such a way that all the requirements of the exemption are met or obtain a construction permit.

For additional assistance with your application, including resources to help calculate your emissions, please visit the Small Business and Local Government Assistance (SBLGA) webpage at the following link: www.TexasEnviroHelp.org

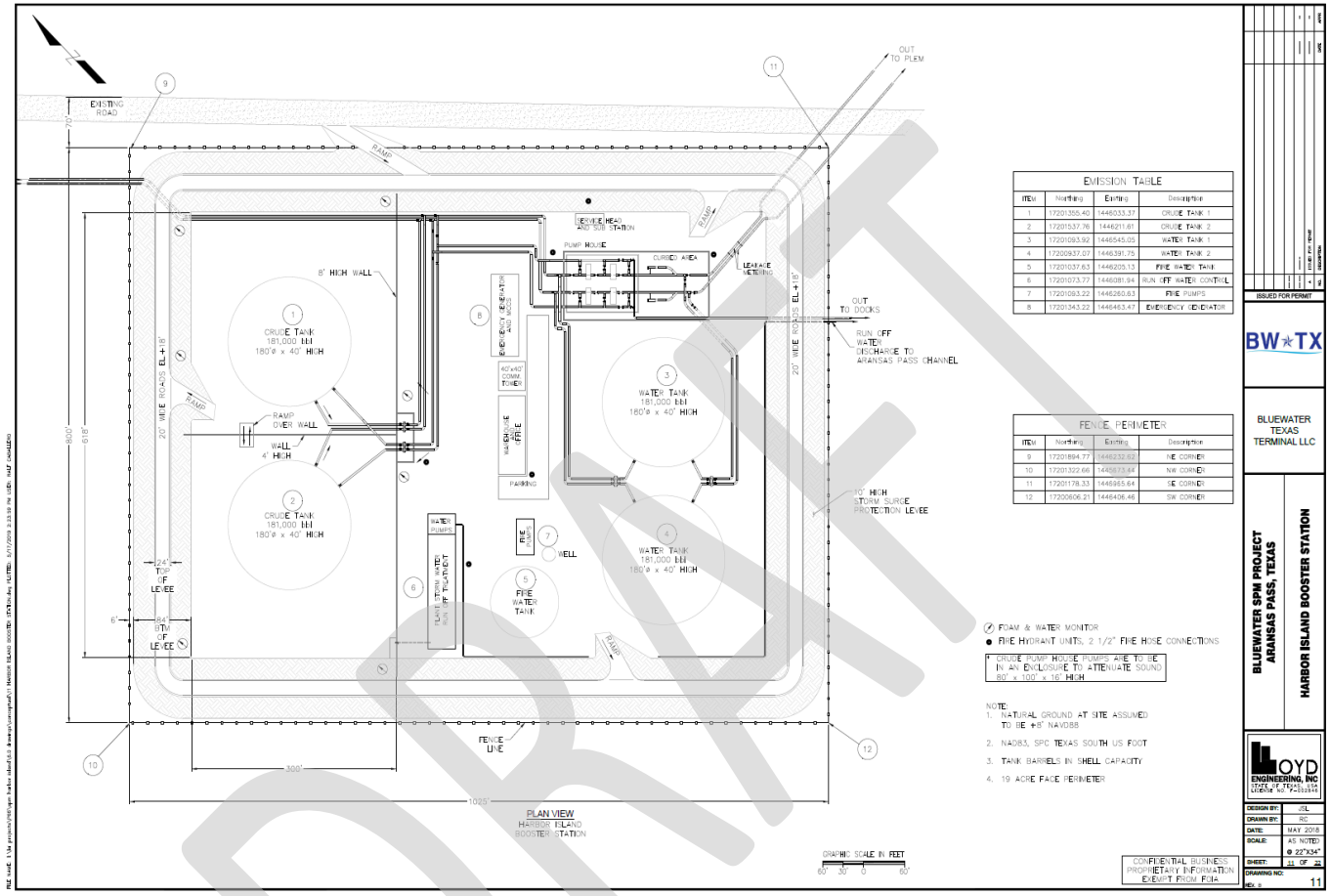
Please Complete The Following:			
Have you included a description of how this exemption claim meets the general rule for the use of exemptions (§ 106.4, previously § 116.211 checklist is available)?	☒ YES	☐ NO	☐ N/A
Are all the facilities claimed for exemption specifically named or described in § 106.532, previously STDX 61's subparagraphs (a)(1)-(15)? Attach a list or detailed description of equipment to be constructed or modified.	☒ YES	☐ NO	☐ N/A
Are all stripping and/or aeration units designed and operated to collect stripped gases and send them to a control device that meets the requirements of § 106.533, previously STDX 68(e)? Attach a list or description of the strippers and/or aerators identifying the control device to be used for each one.	☐ YES	☐ NO	☒ N/A
If combustion is used for control of stripped gases, are all final emissions of HCL resulting from combustion of chlorine or chlorine-containing compounds less than or equal to 0.1 lb/hr?	☐ YES	☐ NO	☒ N/A
If the sum of the partial pressures of all species of VOC in any sample are greater than 1.5 psia, are all liquid phase separators enclosed and vented to a control device meeting the requirements of § 106.533, previously STDX 68(e)? Attach a list or description for each one of the separators identifying the sum of VOC partial pressures or the control device to be used.	☐ YES	☐ NO	☒ N/A
Have you checked to ensure that none of the facilities claimed for exemption fall in any of the categories of prohibited units listed in STDX § 106.532, previously 61(b)?	☒ YES	☐ NO	☐ N/A

Section 3
Location Information

An area map and plot plan are included as Figures 3-1 and 3-2. The figures show the location of the facilities associated with this project as the distance to the nearest off-plant receptor.



Bluewater Terminals, LLC	Harber Island Booster Station, Aransas Pass, Texas	DiSorbo Environmental Consulting Firm
		Figure 3-1 Area Map



EMISSION TABLE			
ITEM	Northing	Easting	Description
1	17201355.40	1446033.37	CRUDE TANK 1
2	17201537.76	1446211.61	CRUDE TANK 2
3	17201093.92	1446545.05	WATER TANK 1
4	17200937.07	1446391.75	WATER TANK 2
5	17201037.63	1446205.13	FIRE WATER TANK
6	17201073.77	1446081.94	RUN OFF WATER CONTROL
7	17201093.22	1446260.63	FIRE PUMPS
8	17201343.22	1446463.47	EMERGENCY GENERATOR

FENCE PERIMETER			
ITEM	Northing	Easting	Description
9	17201894.77	1446232.62	NE CORNER
10	17201322.66	1445873.44	NW CORNER
11	17201178.33	1446965.64	SE CORNER
12	17200606.21	1446406.46	SW CORNER

FOAM & WATER MONITOR
FIRE HYDRANT UNITS, 2 1/2" FIRE HOSE CONNECTIONS
* CRUDE PUMP HOUSE PUMPS ARE TO BE IN AN ENCLOSURE TO ATTENUATE SOUND 80' x 100' x 16' HIGH

NOTE:
1. NATURAL GROUND AT SITE ASSUMED TO BE +5' NAVD88
2. NAD83, SPC TEXAS SOUTH US FOOT
3. TANK BARRELS IN SHELL CAPACITY
4. 19 ACRE FACE PERIMETER

CONFIDENTIAL BUSINESS PROPRIETARY INFORMATION EXEMPT FROM FOIA

ISSUED FOR PERMIT

BW*TX

BLUEWATER TEXAS TERMINAL LLC

BLUEWATER SPM PROJECT
ARANSAS PASS, TEXAS

HARBOR ISLAND BOOSTER STATION

LOYD ENGINEERING, INC
STATE OF TEXAS, USA
LICENSE NO. F-3329

DESIGN BY:	JSL
DRAWN BY:	RC
DATE:	MAY 2018
SCALE:	AS NOTED @ 22"X34"
SHEET:	11 OF 24
DRAWING NO.	11
REV. 8	

Bluewater Terminals LLC

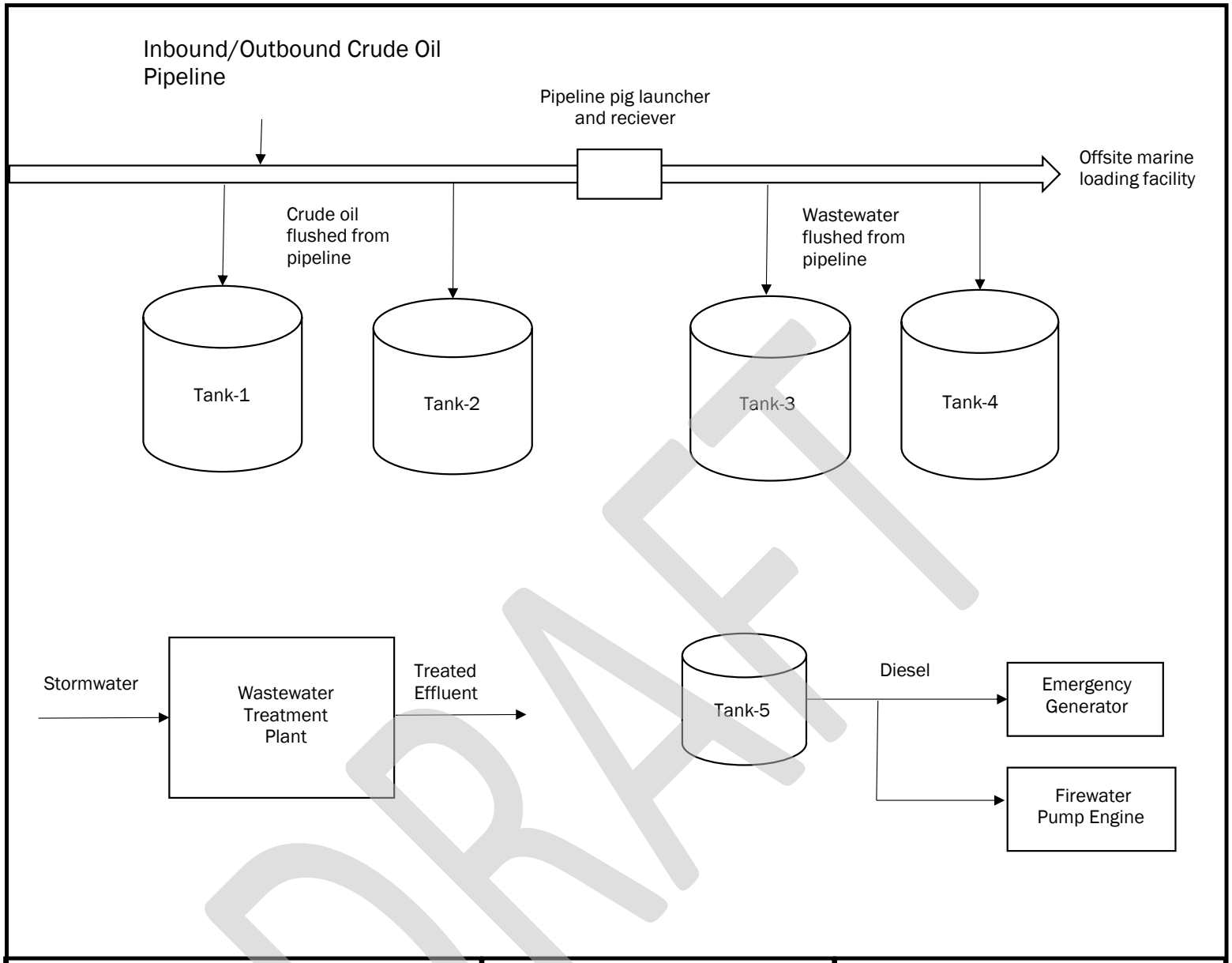
Harber Island Booster Station, Aransas Pass, Texas

DiSorbo Environmental Consulting Firm

Figure 3-2
Plot Plan

Section 4
Process Description

The Harbor Island Booster Station will be located in Aransas Pass, Nueces County. Crude oil will be transferred by pipeline to a proposed offshore deepwater port. Four IFR storage tanks (EPN: Tank-1, Tank-2, Tank-3, Tank-4) will be constructed to store crude oil and process water cleared from pipelines in preparation for emergency weather events. A wastewater treatment system will be used to treat stormwater runoff at the site. A simplified process flow diagram is included as Figure 3-1.



Bluewater Terminals LLC	Harber Island Booster Station, Aransas Pass, Texas	DiSorbo Environmental Consulting Firm
		Figure 4-1 Process Flow Diagram

Section 5
Emission Calculations

The following describes the calculations used to determine the emission rates associated with each emission source category included in this permit application. A summary of the proposed emissions is included in Table 1(a) at the end of this section. Detailed emission calculations are presented in Appendices A and B of this application.

5.1 Routine Emissions

The following describes the emission calculations associated with each routine emission source category in this permit application.

5.1.1 Routine Storage Tanks Emissions

Four internal floating roof (IFR) tanks (EPNs: Tank-1, Tank-2, Tank-3, Tank-4) will be used to store crude oil and wastewater drained from the proposed pipelines. One fixed roof (FR) tank (EPN: Tank-5) will be constructed to store diesel.

Annual storage tank routine working and breathing emissions are estimated using the calculations methods included in *Compilation of Air Pollutant Emission Factors: Volume I Stationary Point and Area Sources, AP-42, Fifth Edition, US EPA, November 2006, Section 7.1* (hereafter referred to in this application as AP-42). Proposed annual emissions are based on the physical properties of the tanks (e.g., tank type, dimensions, seal configurations, fitting types, etc.), materials stored, and annual throughput volumes.

Hourly emission calculations for fixed roof storage tanks included in this application were calculated assuming a maximum true vapor pressure of the liquid at 95°F and by using the methodology referenced in the TCEQ guidance document *APDG 6250 Estimating Short-Term Emission Rates from Tanks.*

Hourly emission calculations for internal floating roof tanks are based on the prescribed TCEQ methodology, using the maximum withdrawal rate and vapor pressure of the stored material using the highest temperature month.

Detailed storage tank calculations are included in Appendix A as Table A-1, A-2 and A-3.

5.1.2 Wastewater treatment system

Wastewater separation and filtering facilities (EPN: WWT) will be constructed to treat runoff storm water collected at the site. Emission rates for the wastewater treatment system were estimated using the maximum hourly and average waste water flow rate and estimated maximum VOC concentration weight concentration of the influent stream. Emissions are conservatively calculated assuming the total liquid concentration of VOC contained in the influent stream is emitted from the wastewater treatment system.

Detailed wastewater treatment system calculations are included in Appendix A as Table A-4.

5.1.3 Emergency generators and firewater pumps

Non-emergency emissions will occur from weekly testing of 1 diesel-fired emergency generator and 1 diesel-fired emergency fire water pump engines. Maximum hourly emissions were calculated based on testing at the maximum engine capacity. Annual emissions were based on a one-hour test duration each week, or 100 hours per year of operation. Emission calculations are based on vendor data, AP-42 factors, and NSPS Subpart IIII standards.

Detailed emergency engine calculations are included in Appendix A as Table A-5.

5.1.4 Piping Equipment Fugitives

The fugitive emissions from piping components and ancillary equipment were estimated using methods outlined in the TCEQ's guidance web page for Equipment Leak Fugitives. Each fugitive component was classified first by equipment type (valve, pump, relief valve, etc.) and then by material type (gas/vapor, light liquid, heavy liquid). Total emission rates were obtained by multiplying the number of fugitive components of a particular type by the appropriate petroleum marketing terminal emission factor and applying the appropriate control credits from the LDAR monitoring program.

Detailed fugitive emission calculations are included in Appendix A as Table A-6.

4.2 Planned MSS Activities

Maintenance, startup, and shutdown (MSS) activities and associated emissions will occur to support operations at the booster station. The following describes the calculations used to determine the MSS emissions associated with the activities included in this permit application. The MSS activities

presented represent the activities that generate the majority of emissions. Additional minor and de minimis activities will occur but are not quantified. Detailed emission calculations are presented in Appendix B of this application.

4.2.1 Storage Tank Floating Roof Landing Losses

The roof-landing events occur for predictable maintenance events. Floating roof landing emissions are estimated using the methods outlined in Subsection 7.1.3.2.2 Roof Landings of Section 7.1 Organic Liquid Storage Tanks of AP-42. For a given roof-landing event, total landing loss emissions are therefore the sum of the filling losses and the daily standing idle losses over the entire period that the roof remains landed. Landing losses are inherently episodic in nature and must be determined each time a tank's floating roof is landed.

Landing losses occur from floating roof tanks whenever the tank is drained to a level where its roof lands on its legs or other supports (including roof suspension cables). When a floating roof lands on its supports or legs while the tank is being drained, the floating roof remains at the same height while the product level continues to lower. This creates a vapor space underneath the roof. Liquid remaining in the bottom of the tank provides a continuous source of vapors to replace those expelled by breathing (in the case of internal floating roof tanks) or wind action (in the case of external floating roof tanks). These emissions, collectively referred to as *standing idle losses (LSL)*, occur daily as long as the floating roof remains landed. Additional emissions occur when incoming stock liquid fills a tank with a landed roof. The incoming volume of liquid not only displaces an equivalent volume of vapors from below the floating roof, but also generates its own set of product vapors that are displaced during the filling process. These two types of emissions are collectively referred to as *filling losses (LFL)*. The calculation methodology used to estimate emissions from standing loss and refilling is discussed in further detail below.

Similar to breathing losses under normal operating conditions, standing idle losses occur during that period a roof is landed with product still in the tank. Emission calculation equations for these losses are from Subsection 7.1.2.2.1 Standing Idle Losses in Section 7.1 of AP-42. The quantity of emissions is dependent upon the number of days idle, tank type (IFR/EFR), type of product stored, and the time of the year. Maximum hourly VOC emissions for tanks with standing idle losses were determined by calculating the losses for one day and then dividing by twelve hours/day. Twelve

hours were used since diurnal temperature changes cause the tanks to breathe out for twelve hours/day and breathe in for the other twelve hours.

Similar to loading losses, refilling losses occur while a tank is being filled with product during that period of time a roof is landed. Emission calculation equations for these losses are from Subsection 7.1.3.2.2.2 of AP- 42. The quantity of emissions is dependent upon the volume of the vapor space under the landed roof, type of product stored, time of year, and fill rate. The maximum refilling loss is based on: (1) the tank re-fill rate; and (2) the month resulting in the highest emission as a function of vapor pressure (July). Maximum hourly VOC emissions were determined by dividing the filling emissions (LFL) by the time it takes to fill the tank at the maximum pumping rate. The calculation assumes that the product vapors within the vapor space under the tank roof are emitted from the tank at the same rate as the liquid coming into the tank.

Detailed equipment storage tank floating roof landing loss calculations are included in Appendix B as Tables B-2 and B-3.

5.1.2 Equipment Venting

Equipment venting includes, but is not limited to, liquid draining, venting to control, venting to atmosphere post control and refilling emissions during startup. The equipment venting emissions are calculated using the ideal gas law using the volume of the equipment, the material properties of the VOC material contained in the equipment. Short-term and annual emissions are based on an assumed number of simultaneous events and annual events per year, respectively. The equipment venting calculations are included to determine the contribution to the MSS cap purposes only. These emission calculations are not to be considered enforceable representations as to the magnitude, duration, and/or frequency of individual activities.

Detailed equipment venting emission calculations are included in Appendix B as Table B-4.

5.1.3 Vacuum Truck and Frac Tank Loading

Vacuum trucks and frac tanks are used to collect and remove excess materials from tanks and process equipment. Emissions from the use of air movers and frac tanks are estimated using the loading loss equation from AP-42, Section 5.2 and the control method or device used. When air movers are used the loading loss emission factor is multiplied by two in accordance with TCEQ

guidance for MSS activities. A saturation factor for splash loading was assumed for all frac tank and vacuum truck loading operations. .

Detailed vacuum truck and frac tank loading emissions are included in Appendix B as Table B-5.

5.1.4 Pipeline Pigging Emissions

Pigging may be required to clean and maintain the product pipelines. Emission associated with pigging maintenance include uncontrolled venting of residual vapor from the pig launcher and receiver. The vapor space emissions were estimated using the Ideal gas law, the total volume of the receiver, the line pressure of the pipeline. Evaporative loss from residual product clingage is estimated in using an assumed residual liquid clingage layer of 0.0004 inches. Potential emissions of H_2S are based on the maximum concentration of H_2S in the VOC vapors.

Detailed pipeline pigging emission calculations are included in Appendix B as Table B-6.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Table 1(a) Emission Point Summary

Date:	May 2019	Permit No.:	TBD	Regulated Entity No.:	TBD
Area Name:	Bluewater Texas Terminals, LLC			Customer Reference No.:	TBD

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

AIR CONTAMINANT DATA						EMISSION POINT DISCHARGE PARAMETERS											
1. Emission Point			2. Air Contaminant Name	3. Air Contaminant Emission Rate		4. UTM Coordinates of Emission Point			Source								
									5. Building Height (Ft.)	6. Height Above Ground (ft)	7. Stack Exit Data			8. Fugitives		
(A) EPN	(B) FIN	(C) NAME		(A) POUND	(B) TPY	Zone	East (Meters)	North (Meters)			(A) Diameter (ft)	(B) Velocity (FPS)	(C) Temp. (°F)	(A) Length (Ft.)	(B) Width (Ft.)	(C) Axis Degress
Tank-1	Tank-1	Storage Tank-1	VOC	14.81	-		1446033..37	17201355.40								
			H_2S	<0.01	-											
Tank-2	Tank-2	Storage Tank-2	VOC	14.81	-		1446297.94	17201357.76								
			H_2S	<0.01	-											
Tank-3	Tank-3	Storage Tank-3	VOC	14.81	-		1446631.58	17201093.92								
			H_2S	<0.01	-											
Tank-4	Tank-4	Storage Tank-4	VOC	14.80	-		1446478.35	17200937.07								
			H_2S	<0.01	-											
TANKCAP	TANKCAP	IFR Storage Tank Emissions Cap	VOC	-	5.14											
			H_2S	-	0.01											
Tank-5	Tank-5	Storage Tank-5	VOC	0.56	<0.01		1446205.13	17201037.63								
WWT	WWT	Wastewater Treatment System	VOC	1.25	2.74		1446081.94	17201073.77								
FWP1	FWP1	Fire Water Pump 1	VOC	1.32	0.13		1446260.63	17201093.22								
			NO_x	1.32	0.13											
			CO	1.10	0.11											
			PM	0.07	0.01											
			PM_{10}	0.07	0.01											
			$PM_{2.5}$	0.07	0.01											
			SO_2	0.41	0.04											
EMGEN1	EMGEN1	Emergency Engine 1	VOC	4.43	0.22		1446463.47	17201343.22								
			NO_x	4.43	0.22											
			CO	3.69	0.18											
			PM	0.22	0.01											
			PM_{10}	0.22	0.01											
			$PM_{2.5}$	0.22	0.01											
			SO_2	1.37	0.07											
FUG	FUG	Fugitives	VOC	0.05	0.23											
			H_2S	<0.01	<0.01											
MSS	MSS	Maitenance, Startup and Shutdown Emissions Cap	VOC	1309.48	9.96											
			H_2S	8.94	0.03											

Section 6
NSR Applicability Analysis

Non-attainment New Source Review (NNSR) permitting is required for each non-attainment pollutant at a greenfield site that results in an emission increase which exceeds the applicable major source threshold. Prevention of Significant Deterioration (PSD) permitting is required for each attainment pollutant and other regulated pollutants (such as H_2S and H_2SO_4) that exceeds the applicable major source threshold. Nueces County is designated as attainment/unclassified for the eight-hour ozone standard and attainment/unclassified for all other criteria pollutants. The emission increases associated with this permit application are summarized and compared to the PSD applicability thresholds in Table 1-1 at the end of Section 1. Included at the end of this section is a Table 1F which summarizes the Federal NSR applicability analysis.

6.1 NNSR Applicability

The Harbor Island Booster Station is not located in a nonattainment area for the criteria pollutants. As a result, NNSR is not applicable to the proposed project.

6.2 PSD Applicability

The Harbor Island Booster Station is considered a greenfield site for Federal NSR applicability purposes and the project emission increases of VOC, NO_x, CO, SO_2, H_2S, and $PM/PM_{10}/PM_{2.5,}$ are less than the applicable major source thresholds; therefore, PSD review does not apply for any of these pollutants. Because PSD review is not required for any other pollutant, PSD also does not apply to greenhouse gas (GHG) emissions

TABLE 1F
AIR QUALITY APPLICATION SUPPLEMENT

Permit No.: **TBD**	Application Submittal Date: May **2019**
Company: **Blue Water Texas Terminals LLC**	
RN: **TBD**	Facility Location: **Corpus Christi**
City: **Corpus Christi**	County:
Permit Unit I.D.: **TBD**	Permit Name: **Booster station PBR**
Permit Activity: X New Source Modification	
Project or Process Description: **Booster Station**	

Complete for all Pollutants with a Project Emission Increase.	POLLUTANTS							
	Ozone		CO	PM_{10}	$PM_{2.5}$	NO_x	SO_2	H_2S
	VOC	NO_x						
Nonattainment?	No	No	No	No	No	No	No	No
PSD?	No	No	No	No	No	No	No	No
Existing site PTE (tpy)?	0	0	0	0	0	0	0	0
Proposed project emission increases (tpy from 2F)[2]	18.41	0.35	0.29	0.02	0.02	0.35	0.11	0.04
Is the existing site a major source?	No	No	No	No	No	No	No	No
If not, is the project a major source by itself?	No	No	No	No	No	No	No	No
If site is major, is project increase significant?	NA	NA	NA	NA	NA	NA	NA	NA
If netting required, estimated start of construction?	N/A							
Five years prior to start of construction	N/A					contemporaneous		
Estimated start of operation	N/A					period		
Net contemporaneous change, including proposed project, from Table 3F. (tpy)	NA	NA	NA	NA	NA	NA	NA	NA
Major NSR Applicable?	No	No	No	No	No	No	No	No

1 Other PSD pollutants. [Pb, H2S, TRS, H2SO4, Fluoride excluding HF, etc.]

2 Sum of proposed emissions minus baseline emissions, increases only.

The representations made above and on the accompanying tables are true and correct to the best of my knowledge.

Signature Title

Section 7
Rule Applicability Analysis

The information in this section demonstrates that the proposed project is exempt from the permitting requirements contained in 30 TAC Chapter 116 by meeting the Permit-by-Rule (PBR) requirements specified in 30 TAC §§106.4, 106.8, 106.263 and 106.478. Completed §§106.4 and 106.478 checklists are provided at the end of this section.

7.1 §106.4 - Requirements for Permitting by Rule

§106.4(a)(1) Total emissions from the proposed project are less than 25 tpy for all air contaminant categories.

§106.4(a)(2) As described in Section 6, the Nueces County is an attainment area, therefore, this requirement is not applicable.

§106.4(a)(3) As described in Section 6, this project will not result in emissions of such quantity as to trigger PSD review as a major modification.

§106.4(a)(4) Sitewide emissions resulting from the proposed authorization will not exceed given thresholds for any regulated pollutant.

§106.4(a)(5) The facility meets the requirements of the exemptions in effect at the time of the submittal of this registration.

§106.4(a)(6) The emissions from this facility will comply with the Federal Clean Air Act and new source review requirements.

§106.4(a)(7) There are no existing air quality permits at the site that preclude the use of a Permit-by-Rule.

§106.4(a)(8) The provisions of Chapter 101, Subchapter H, Division 3 do not apply.

§106.4(b) There are no artificial limitations set at the facility that would circumvent the requirements of §116.110.

§106.4(c) The facility operations will comply with all the rules and regulations of the TCEQ and the Texas Clean Air Act (TCAA), including the protection of health

and physical property of the public. In addition, all emissions control equipment will be maintained in good condition and operated properly.

§106.4(d) There are no applicable local air pollution control requirements, registrations or permits in Nueces County.

7.2 §106.8 - Recordkeeping

§106.8(a) The facilities and sources in this registration are not designated as de minimis.

§106.8(b) The PBRs claimed in this registration are not listed.

§106.8(c)(1) A copy of the PBRs and the general conditions in effect at the time of the project will be maintained at the site.

§106.8(c)(2)(A) Records will be maintained to demonstrate compliance with §106.4.

§106.8(c)(2)(B) Records will be maintained to demonstrate compliance with all applicable PBR conditions.

§106.8(c)(3) All required records will be kept at the site and/or at the nearest office location.

§106.8(c)(4) Required records will be made available to the TCEQ upon request.

§106.8(c)(5) Sufficient records will be maintained to demonstrate compliance for any consecutive 12-month period.

§106.8(c)(6) All required records will be maintained for five years.

7.3 §106.263 - Routine Maintenance, Start-up and Shutdown of Facilities, and Temporary Maintenance Facilities

§106.263(b)(1) No new or modified permanent facilities are being authorized.

§106.263(b)(2) Not applicable.

§106.263(b)(3) Not applicable.

§106.263(b)(4) The MSS facilities and sources are not de minimis as allowed in §116.119.

§106.263(b)(5) Piping fugitive emissions are not being authorized under 106.263.

§106.263(b)(6) None of the routine operations listed under this paragraph are being claimed under 106.263.

§106.263(c)(1) The MSS activities described in Section 4 are routine maintenance activities.

§106.263(c)(2) The start-ups and shutdowns which are planned and predictable.

§106.263(c)(3) No temporary control devices will be authorized under the proposed PBR registration.

§106.263(d)(1) The 24-hour emission total from routine maintenance (excluding temporary maintenance facilities), start-up, and shutdown will be less than the reportable quantities defined in §101.1(82)

§106.263(d)(2) BT will comply with subsection (f)(2) if RQs are exceeded.

§106.263(d)(3) BT will comply with subsection (f) of this subsection

§106.263(e)(5) Control devices used to control MSS activities will not be authorized by this permit registration.

§106.263(e)(7) Temporary control devices will not operate at the site for longer than 180 consecutive days unless a separate authorization is obtained.

§106.263(f) As shown on Table 1-1, emissions covered by this 106.263 will be less than any applicable emission limit under §106.4(a)(1) - (3) in any rolling 12-month period.

§106.263(g) BT will keep all applicable records necessary to verify compliance.

7.4 §106.355 - Pipeline Metering, Purging and Maintenance

§106.355(1) Total emissions of VOC will comply with the emission limits outlined in 106.355(2).

§106.355(2) Total uncontrolled emissions will not exceed one ton during any metering, purging, or maintenance operation.

§106.355(3) Venting of sweet natural gas is not being authorized with this permit application.

§106.355(4) Pipeline pigging emissions being authorized will meet the requirements outlined in the rule.

§106.355 All required records identifying maintenance and purging activities will be maintained.

7.5 §106.472 – Organic and Inorganic Liquid Loading and Unloading

§106.472(1) Storage tank in diesel service (EPN: Tank-5) will meet the requirement outlined in this section.

§106.472(2) Storage tanks in wastewater service (EPN: Tank-3 and Tank-4) meet the requirement outlined in this section.

§106.472(3) Storage tanks authorized under this chapter will meet the requirements outlined in §106.472(1) and §106.472(2).

§106.472(4) Storage tanks authorized under this chapter will meet the requirements outlined in §106.472(1) and §106.472(2).

§106.472(5) Storage tanks authorized under this chapter will meet the requirements outlined in §106.472(1) and §106.472(2).

§106.472(6) Storage tanks authorized under this chapter will meet the requirements outlined in §106.472(1) and §106.472(2).

§106.472(7) Storage tanks authorized under this chapter will meet the requirements outlined in §106.472(1) and §106.472(2).

§106.472(8) Storage tanks authorized under this chapter will meet the requirements outlined in §106.472(1) and §106.472(2).

§106.472(9) Storage tanks authorized under this chapter will meet the requirements outlined in §106.472(1) and §106.472(2).

7.6 §106.478 - Storage Tank and Change of Service

§106.478(1) Crude oil storage tanks authorized under this section will be located at least 500 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.

§106.478(2) The true vapor pressure of the compound to be stored will be less than 11 psia at the maximum storage temperature.

§106.478(3) The process water, and crude oil storage tanks authorized under this section will be equipped with an internal floating cover.

§106.478(3)(A) The tanks will not have external floating roofs.

§106.478(3)(B) The floating roof design shall incorporate sufficient flotation to conform to the requirements of American Petroleum Institute Code 650, Appendix C or an equivalent degree of flotation.

§106.478(4) This section does not apply to the IFR tanks.

§106.478(5) This section does not apply to the IFR tanks.

§106.478(6) The tank emissions are calculated by methods specified in Section 4.3 or the current edition of the United States Environmental Protection Agency Publication AP-42.

§106.478(7) The tanks are not located in a designated nonattainment area as discussed in Section No. 6; therefore, registration is not required prior to construction.

§106.478(8) The proposed storage tanks will store crude oil.

7.7 §106.532 – Water and Wastewater Treatment

§106.532(1)(A-0) Wastewater treatment facilities included in this permit registration include an enclosed gravity settlement tank or basin, a dissolved air flotation system

	and a membrane and or absorption system. The proposed wastewater treatment facilities will meet §106.532 1(C) and §106.532 1(O).
§106.532(2)	Chlorine and SO_2 will not be utilized in the as part of the proposed wastewater treatment system.
§106.532(2)	The facilities listed will not be authorized as part of the proposed PBR registration.

Appendix A

Routine Emission Calculations

Table A-1
Floating Roof Tank Emissions
Bluewater Texas Terminals, LLC

FIN				Tank-1	Tank-2	Tank-3	Tank-4
EPN				Tank-1	Tank-2	Tank-3	Tank-4
Material				**Crude Oil**	**Crude Oil**	**Wastewater**	**Wastewater**
Material Type				Crude	Crude	Crude	Crude
Diameter	D	ft		135	135	135	135
Tank Type				IFR	IFR	IFR	IFR
Tank Nominal Capacity		bbl		190,000	190,000	190,000	190,000
Turnovers per Tank	N			12.00	12.00	12.00	12.00
Paint Color	-	-		White	White	White	White
Paint Solar Absorptance	α	-		0.17	0.17	0.17	0.17
Continuous Level Tank		(Yes / No)		No	No	No	No
Maximum Withdrawal Rate	Q max	bbl/hr		46,000	46,000	46,000	46,000
Throughput	Q	bbls/yr		2,280,000	2,280,000	2,280,000	2,280,000
Shell Clingage	C	bbl/1000ft^2		0.006	0.006	0.006	0.006
No. of Columns	N_C	-		8	8	8	8
Column Diameter	F_C	ft		1	1	1	1
Deck Fitting Factor	F_F	lb-mole/yr		334	334	334	328
Deck Construction	-	-		Welded	Welded	Welded	Welded
Deck Seam Loss Factor	K_D	lb-mole/ft-yr		0	0	0	0
Deck Seam Length Factor	S_D	ft/ft^2		0	0	0	0
Product Factor	K_C	-		0.40	0.40	0.40	0.40
Tank Rim Seal Factor, Kra	K_{ra}			0.6	0.6	0.6	0.6
Tank Rim Seal Factor, Krb	K_{Rb}			0.4	0.4	0.4	0.4
Tank Rim Seal Factor, n	n			1	1	1	1
Rim Seal Factor	K_R	lb-mole/ft-yr		0.600	0.600	0.600	0.600
Controlled?				Yes	Yes	Yes	Yes
VRU				TKVCU	TKVCU	TKVCU	TKVCU
Period		-		Annual	Annual	Annual	Annual
Average Wind Speed	v	mph	Equal 0 for IFR Tanks	0.00	0.00	0.00	0.00
Daily Total Solar Insolation Factor	I	Btu/ft^2-d		1442.31	1442.31	1442.31	1442.31
Daily Maximum Ambient Temperature	T_{AX}	°F		77.88	77.88	77.88	77.88
Daily Minimum Ambient Temperature	T_{AN}	°F		58.87	58.87	58.87	58.87
Daily Ambient Temp. Change	DT_A	°R	T_{AX} - T_{AN}	19.01	19.01	19.01	19.01
Daily Avg. Ambient Temperature	T_{AA}	°F	$((T_{AX}+459.67)+(T_{AN}+459.67))/2$	68.37	68.37	68.37	68.37
Bulk Temperature Source				Ambient	Ambient	Ambient	Ambient
Liquid Bulk Temperature	T_b	°F	T_{AA} + 6α -1	68.39	68.39	68.39	68.39
Insulated?			$0.44T_{AA}+0.56_{Tb}+0.0079(\alpha*I)$ if not insulated; otherwise T_{LA} based on measurements from tank	No	No	No	No
Daily Avg. Liquid Surface Temp.	T_{LA}	°F		70.32	70.32	70.32	70.32
Daily Max. Avg. Liq. Surf. Temp.	**T_{LX}**	°F	$T_{LA}+0.25*DT_V$	75.46	75.46	75.46	75.46
Daily Min. Avg. Liq. Surf. Temp.	T_{LN}	°F	$T_{LA}-0.25*DT_V$	65.18	65.18	65.18	65.18
Daily Vapor Temperature Range	DT_V	°R	$0.72*DT_A+0.028*\alpha*I$	20.55	20.55	20.55	20.55
Crude Oil Service?	-	Y/N		Y	Y	Y	Y
Liquid Molecular Wt.	M_L	lb/lb-mole		207.00	207.00	207.00	207.00
Vapor Molecular Wt.	M_V	lb/lb-mole		50.00	50.00	50.00	50.00
Liquid Density	W_l	lb/gal		7.10	7.10	7.10	7.10
Vapor Pressure Method		-		RVP	RVP	RVP	RVP
Maximum H_2S Liquid Concentration				10.00	10.00	10.00	10.00
Maximum H_2S Vapor Concentration		ppm		1403.84	1403.84	1403.84	1403.84
Reid Vapor Pressure	RVP	psi		9.5	9.5	9.5	9.5
Slope	Sl	°F/vol %		0	0	0	0
Vapor Pressure Equation Constant A	A	dim		10.593	10.593	10.593	10.593
Vapor Pressure Equation Constant B	B	°R or °C		4461	4461	4461	4461
Vapor Pressure Equation Constant C	C	°C		NA	NA	NA	NA
Vapor Pressure @ 40°F		psia		NA	NA	NA	NA
Vapor Pressure @ 50°F		psia		NA	NA	NA	NA
Vapor Pressure @ 60°F		psia		NA	NA	NA	NA
Vapor Pressure @ 70°F		psia		NA	NA	NA	NA
Vapor Pressure @ 80°F		psia		NA	NA	NA	NA
Vapor Pressure @ 90°F		psia		NA	NA	NA	NA
Vapor Pressure @ 100°F		psia		NA	NA	NA	NA
True Vapor Pressure @ T_{LA}	P_{VA}	psia @ **T_{LX}**		8.81	8.81	8.81	8.81
True Vapor Pressure @ T_{LX}	P_{VX}	psia @ **T_{LX}**		9.55	9.55	9.55	9.55
True Vapor Pressure @ T_{LN}	P_{VN}	psia @ **T_{LN}**		8.11	8.11	8.11	8.11
Vapor Pressure Function	P*	dim	$P_{VA}/P_A/(1+(1-(P_{VA}/P_A))^0.5)^2$	0.2236	0.2236	0.2236	0.2236
Daily Vapor Pressure Range	DP_V	psia	P_{VX} - P_{VN}	1.44	1.44	1.44	1.44
Heat Value		Btu/lb		20,000	20,000	20,000	20,000
Rim Seal Loss	L_R	lb/yr	$(K_R)(P*)(D)(M_V)(K_C)$	362.2	362.2	362.2	362.2
Deck Fitting Loss	L_F	lb/yr	$(F_F)(P*)(M_V)(K_C)$	1493.8	1493.8	1493.8	1466.1
Deck Seam Loss	L_D	lb/yr	$(K_D)(S_D)(D^2)(P*)(M_V)(K_C)$	0.00	0.00	0.00	0.00
Withdrawal Loss	L_{WD}	lb/yr	$[(0.943)(Q)(C)(W_l)/(D)](1+[(N_c)(F_C)]/D)$	718.66	718.66	718.66	718.66
Total VOC Loss	L_T	lb/yr	$(L_R+L_F+L_D+L_{WD})$	2574.61	2574.61	2574.61	2546.89
Total H_2S Emissions		**ton/yr**		**0.00**	**0.00**	**0.00**	**0.00**
Total VOC Emissions	**L_T**	**ton/yr**	**L_t/2000**	**1.29**	**1.29**	**1.29**	**1.27**
Month		-		July	July	July	July
Average Wind Speed	v	mph	Equal 0 for IFR Tanks	0.00	0.00	0.00	0.00
Rim Seal Factor	K_R	lb-mole/ft-yr		0.600	0.600	0.600	0.600
Daily Total Solar Insolation Factor	I	Btu/ft^2-d		1919.80	1919.80	1919.80	1919.80
Daily Maximum Ambient Temperature	T_{AX}	°F		91.90	91.90	91.90	91.90
Daily Minimum Ambient Temperature	T_{AN}	°F		73.70	73.70	73.70	73.70
Daily Ambient Temp. Change	DT_A	°R	T_{AX} - T_{AN}	18.20	18.20	18.20	18.20
Daily Avg. Ambient Temperature	T_{AA}	°F	$((T_{AX}+459.67)+(T_{AN}+459.67))/2$	82.80	82.80	82.80	82.80
Bulk Temperature Source				Ambient	Ambient	Ambient	Ambient
Liquid Bulk Temperature	T_b	°F	T_{AA} + 6α -1	82.82	82.82	82.82	82.82
Insulated?			$0.44T_{AA}+0.56_{Tb}+0.0079(\alpha*I)$ if not insulated; otherwise T_{LA} based on measurements from tank	No	No	No	No
Daily Avg. Liquid Surface Temp.	T_{LA}	°F		85.39	85.39	85.39	85.39
Daily Max. Avg. Liq. Surf. Temp.	**T_{LX}**	°F	$T_{LA}+0.25*DT_V$	100.00	100.00	100.00	100.00
Daily Vapor Temperature Range	DT_V	°R	$0.72*DT_A+0.028*\alpha*I$	22.24	22.24	22.24	22.24
Max Stored True Vapor Pressure	P_{VX}			10.90	10.90	10.90	10.90
Vapor Pressure Function	P*	dim	$P_{VX}/P_A/(1+(1-(P_{VX}/P_A))^0.5)^2$	0.32387	0.32387	0.32387	0.32387
Rim Seal Loss	L_R	lb/yr	$(K_R)(P*)(D)(M_V)(K_C)$	524.66	524.66	524.66	524.66
Deck Fitting Loss	L_F	lb/yr	$(F_F)(P*)(M_V)(K_C)$	2164.08	2164.08	2164.08	2123.92
Deck Seam Loss	L_D	lb/yr	$(K_D)(S_D)(D^2)(P*)(M_V)(K_C)$	0.00	0.00	0.00	0.00
Withdrawal Loss	L_{WD}	lb/yr	$[(0.943)(Qmax*8760)(C)(W_l)/(D)](1+[(N_c)(F_C)]/D)$	127014.04	127014.04	127014.04	127014.04
Hourly H_2S Emissions		**lb/hr**		**5.76E-04**	**5.76E-04**	**5.76E-04**	**5.69E-04**
Hourly VOC Emissions	**L_T**	**lb/hr**	**$(L_R+L_F+L_D+L_{WD})/8760$**	**14.81**	**14.81**	**14.81**	**14.80**

Note:
1.) For all tanks the maximum true vapor pressure is 10.9 psia.
2) Emissions for wastewater storage tanks conservatively calculated assuming crude oil material properties

Table A-2
Tank Deck Fitting Factors
Bluewater Texas Terminals, LLC

Port Arthur, Texas
Average Annual Wind Speed (ws): 9.65 mph

					FIN>>	Tank-1	Tank-2	Tank-3	Tank-4
					Roof Type>	IFR	IFR	IFR	IFR
Fitting Type	Cover Type/Description	KFa	KFb	m		Quantity	Quantity	Quantity	Quantity
	Diameter					135.00	135.00	135.00	135.00
	Deck Construction					Welded	Welded	Welded	Welded
	Floating Roof Type					Steel	Steel	Steel	Steel
	Self-Supporting Roof?					No	No	No	No
Access Hatch (24-in. Diam.)	TYPICAL					**1**	**1**	**1**	**1**
Access Hatch (24-in. Diam.)	Bolted Cover, Gasketed	1.6	0	0		1	1	1	1
Access Hatch (24-in. Diam.)	Unbolted Cover, Ungasketed	36	5.9	1.2					
Access Hatch (24-in. Diam.)	Unbolted Cover, Gasketed	31	5.2	1.3					
Column Well (24-in. Diam.)	TYPICAL					**8**	**8**	**8**	**8**
Column Well (24-in. Diam.)	Pipe Col.-Sliding Cover, Ungask.	31	0	0					
Column Well (24-in. Diam.)	Pipe Col.-Sliding Cover, Gask.	25	0	0		8	8	8	8
Column Well (24-in. Diam.)	Pipe Col.-Flex. Fabric Sleeve Seal	10	0	0					
Column Well (24-in. Diam.)	Built-Up Col.-Sliding Cover, Ungask.	51	0	0					
Column Well (24-in. Diam.)	Built-Up Col.-Sliding Cover, Gask.	33	0	0					
	Total Columns					8	8	8	8
Guidepoles	TYPICAL					**0**	**0**	**0**	**0**
Unslotted Guidepoles	Ungasketed Sliding Cover	31	150	1.4					
Unslotted Guidepoles	Ungasketed Sliding Cover, w. Sleeve	25	2.2	2.1					
Unslotted Guidepoles	Gasketed Sliding Cover	25	13	2.2					
Unslotted Guidepoles	Gasketed sliding Cover, w. Wiper	14	3.7	0.78					
Unslotted Guidepoles	Gasketed Sliding Cover, w. Sleeve	8.6	12	0.81					
Slotted Guidepoles/Sample Well	Ungask. Sliding Cover, w/o Float	43	270	1.4					
Slotted Guidepoles/Sample Well	Ungask. Sliding Cover, w. Float	31	36	2					
Slotted Guidepoles/Sample Well	Gask. Sliding Cover, w/o Float	43	270	1.4					
Slotted Guidepoles/Sample Well	Gask. Sliding Cover, w. Float	31	36	2					
Slotted Guidepoles/Sample Well	Gask. Sliding Cover, w. Pole Wiper	41	48	1.4					
Slotted Guidepoles/Sample Well	Gask. Sliding Cover, w. Pole Sleeve	11	46	1.4					
Slotted Guidepoles/Sample Well	Gask. Sliding Cover, w. Pole Sleeve,Wiper	8.3	4.4	1.6					
Slotted Guidepoles/Sample Well	Gask. Sliding Cover, w. Float, Wiper	21	7.9	1.8					
Slotted Guidepoles/Sample Well	Gask Sliding Covr, w. Float,Sleeve,Wiper	11	9.9	0.89					
Automatic Gauge Float Well	TYPICAL					**1**	**1**	**1**	**1**
Automatic Gauge Float Well	Unbolted Cover, Ungasketed	14	5.4	1.1					
Automatic Gauge Float Well	Unbolted Cover, Gasketed	4.3	17	0.38		1	1	1	1
Automatic Gauge Float Well	Bolted Cover, Gasketed	2.8	0	0					
Gauge-Hatch/Sample Well	TYPICAL					**1**	**1**	**1**	**1**
Gauge-Hatch/Sample Well	Weighted Mech. Actuation, Gask.	0.47	0.02	0.97					
Gauge-Hatch/Sample Well	Weighted Mech. Actuation, Ungask.	2.3	0	0		1	1	1	1
Gauge-Hatch/Sample Well	Slit Fabric Seal 10% Open	12	0	0					
Vacuum Breaker	TYPICAL					**1**	**1**	**1**	**1**
Vacuum Breaker	Weighted Mech. Actuation, Ungask.	7.8	0.01	4					
Vacuum Breaker	Weighted Mech. Actuation, Gask.	6.2	1.2	0.94		1	1	1	
Stub Drains	TYPICAL					**0**	**0**	**0**	**0**
Roof Drain	Open	1.5	0.21	1.7					
Roof Drain	90% Closed	1.8	0.14	1.1					
Roof Drain	Stub	1.2	0	0					
Roof Leg - IFR	TYPICAL					**49**	**49**	**49**	**49**
Roof Leg - IFR	Adjustable	7.9	0	0					
Roof Leg - Pontoon Area	TYPICAL					**0**	**0**	**0**	**0**
Roof Leg - Pontoon Area	Adjustable, Pontoon Area, Ungasketed	2	0.37	0.91					
Roof Leg - Pontoon Area	Adjustable, Pontoon Area, Gasketed	1.3	0.08	0.65		49	49	49	49
Roof Leg - Pontoon Area	Adjustable, Pontoon Area, Sock	1.2	0.14	0.65					
Roof Leg - Center Area	TYPICAL					**0**	**0**	**0**	**0**
Roof Leg - Center Area	Adjustable, Center Area, Ungasketed	0.82	0.53	0.14					
Roof Leg - Center Area	Adjustable, Center Area, Gasketed	0.53	0.11	0.13					
Roof Leg - Center Area	Adjustable, Center Area, Sock	0.49	0.16	0.14					
Roof Leg - Double-Deck	TYPICAL					**0**	**0**	**0**	**0**
Roof Leg - Double-Deck	Adjustable, Double-Deck Roofs	0.82	0.53	0.14					
Roof Leg - IFR	Fixed	0	0	0					
Rim Vent	TYPICAL					**0**	**0**	**0**	**0**
Rim Vent	Weighted Mech. Actuation, Ungask.	0.68	1.8	1					
Rim Vent	Weighted Mech. Actuation, Gask.	0.71	0.1	1					
Ladder Well	TYPICAL					**1**	**1**	**1**	**1**
Ladder Well	Sliding Cover, Ungasketed	98	0	0					
Ladder Well	Sliding Cover, Gasketed	56	0	0		1	1	1	1
					Deck Fitting Factor:	**334.10**	**334.10**	**334.10**	**327.90**

Table A-3
Fixed Roof Tank Emissions
Bluewater Texas Terminals, LLC

Parameter Name & Variable		Units	Notes	
FIN				**Tank-5**
EPN				**Tank-5**
Material				Diesel
Type				VFR
Throughput	Q	gal/yr		20,160
Tank Height	H_S	ft		15
Average Liquid Height	H_L	ft	H_S / 2	7.5
Diameter	D	ft		11
Tank Liquid Volume	V_{LX}	ft3	(D/2)^2 * pi * H_S	1,425
Tank Nominal Capacity	T_{CG}	gal	VLX * 7.481	10,080
Turnovers	N		5.614*Q / V_{LX}	2.00
Maximum Filling Rate	FRm	gal/hr		10,080
Roof Slope	S_R	ft/ft		0
Tank Color/Shade				White
Paint Solar Absorptance	α	-		0
Daily Total Solar Insolation Factor	I	Btu/ft^2-d		1442.31
Daily Maximum Ambient Temperature	T_{AX}	ºF		77.88
Daily Minimum Ambient Temperature	T_{AN}	ºF		58.87
Daily Ambient Temp. Change	DT_A	ºR	T_{AX} - T_{AN}	19.008
Daily Avg. Ambient Temperature	T_{AA}	ºR	((T_{AX}+459.67)+(T_{AN}+459.67))/2	528.041
Liquid Bulk Temperature	T_b	ºR	T_{AA} + 6α -1	528.061
Daily Avg. Liquid Surface Temp.	T_{LA}	ºR	0.44T_{AA}+0.56$_{Tb}$+0.0079(α*I)	529.989
Daily Max. Avg. Liq. Surf. Temp.	**T_{LX}**	ºR	T_{LA}+0.25*DT_V	535.127
Daily Min. Avg. Liq. Surf. Temp.	T_{LN}	ºR	T_{LA}-0.25*DT_V	524.851
Daily Vapor Temperature Range	DT_V	ºR	0.72*DT_A+0.028*α*I	20.551
Liquid Molecular Wt.	M_L	lb/lb-mole		188.00
Vapor Molecular Wt.	M_V	lb/lb-mole		130.00
Reid Vapor Pressure	RVP	psi		NA
Slope	SI	°F/vol %		NA
C-C Vapor Pressure Equation Constant A	A	dimensionless		12.10
C-C Vapor Pressure Equation Constant B	B	ºR		8907.00
True Vapor Pressure @ T_{LA}	P_{VA}	psia @ **T_{LA}**		0.009
True Vapor Pressure @ T_{LX}	P_{VX}	psia @ **T_{LX}**		0.011
True Vapor Pressure @ T_{LN}	P_{VN}	psia @ T_{LN}		0.008
Vapor Pressure Function	P*	dimensionless	P_{VA}/P_A/(1+(1-(P_{VA}/P_A))^0.5)^2	0.00031
Daily Vapor Pressure Range	DP_V	psia	P_{VX} - P_{VX}	0.00296
True Vapor Pressure @ 95F	P	psia		0.02
Roof Outage	H_{RO}	ft	1/3 * S_R * De/2	0.00
Vapor Space Outage	H_{VO}	ft	H_s-H_L or D/2	7.5
Vapor Space Expansion Factor	K_E		(DT_V/T_{LA}) + (DP_V/(P_A-P_{VA}))	0.039
Vented Vapor Saturation Factor	K_S		1/(1 + 0.053 * P_{VA} * H_{VO})	1.00
Turnover Factor	K_N		turnovers < 36 = 1, turnovers > 36 = (180 +	1.00
Working Loss Product Factor	K_P		0.75 for crude oils, 1.0 all other organic liqui	1.00
Daily Vapor Pressure Range	dPv	psia		0.003
Vapor Space Volume	V_V	ft3	pi * (D/2)^2 * H_{VO}	713
Vapor Density	Wv	lb/ft3	(M_V * P_{VA}) / (10.731*T_{LA})	0.00021
Standing Losses	L_S	lb/yr	365 * V_V * W_V * K_E * K_S	2.1
Working Losses	L_W	lb/yr	0.0010 * M_V * P_{VA} * Q/42 * K_N * K_P	0.56
Total Losses	L_T	lb/yr	L_S + L_W	2.65
Annual VOC Emission Rate		**tpy**	L_T / 2000	**0.001**
Max. VOC Emission Rate	**L_{MAX}**	**lb/hr**	(MV*PVA) / (R*T)*FRm	**0.562**

Notes:

1. Annual emission rate calculations taken from AP-42 5th Ed., Section 7.
2. Calculated using TCEQ equation from Storage Tank Guidance Document.

Table A-4
Wastewater treatment emissions
Bluewater Texas Terminals, LLC

VOC Wastewater Emissions		
Parameter	**Unit**	**Value**
FIN	-	WWT
EPN	-	WWT
Max Flow Rate	gallons/hr	1500
Max Flow Rate	lb/hr	12,495.00
Average Flow Rate	gallons/hr	750.00
Average Flow Rate	lb/hr	6,247.50
VOC Concentration	ppmw	100.00
Max. Emission Rate	lb/hr	1.25
Average Emission Rate	tpy	2.74

Example Calculations:

Value

$$\frac{12495.000\ \text{lb}}{\text{hr}} \times \frac{100.00\ \text{ppmw VOC}}{1000000} = 1.2495\ \text{lb/hr VOC}$$

Value

$$\frac{6247.500\ \text{lb}}{\text{hr}} \times \frac{100.00\ \text{ppmw VOC}}{1000000} \times \frac{8760\ \text{hr}}{\text{yr}} \times \frac{\text{ton}}{2000\ \text{lb}} = 2.7364\ \text{tpy VOC}$$

Table A-5
Diesel Emergency Engines
Bluewater Texas Terminals, LLC

Unit ID	Pollutant	Power (hp)	Annual Operation (hr)	Emissions Factor		Emissions	
				Value	Units	lb/hr	tpy
FWP1	NOx	200	100	0.0066	lb/hp-hr	1.32	0.13
	CO			0.0055	lb/hp-hr	1.10	0.11
	SO_2			0.002	lb/hp-hr	0.41	0.04
	$PM/PM_{10}/PM_{2.5}$			0.00033	lb/hp-hr	0.07	0.01
	VOC			0.0066	lb/hp-hr	1.32	0.13

Unit ID	Pollutant	Power (kw)	Annual Operation (hr)	Emissions Factor		Emissions	
				Value	Units	lb/hr	tpy
EMGEN1	NOx	500	100	0.0066	lb/hp-hr	4.43	0.22
	CO			0.0055	lb/hp-hr	3.69	0.18
	SO_2			0.002	lb/hp-hr	1.37	0.07
	$PM/PM_{10}/PM_{2.5}$			0.00033	lb/hp-hr	0.22	0.01
	VOC			0.0066	lb/hp-hr	4.43	0.22

Notes:

1.VOC, NOx and PM emissions are based on emission factors from Table 4 to Subpart IIII of Part 60—Emission Standards for Stationary Fire Pump Engines.

2. CO emissions are based on emission factors from AP-42, Section 3.4 - Large Stationary Diesel and All Stationary Dual-fuel Engines.

3. SO2 emissions were calculated based on emission factor from AP-42, Section 3.3, Table 3.3-1, and maximum 15 ppm of Sulfur content per 40 CFR 60.4207(b) and 40

Table A-6
Fugitive Emissions
Bluewater Texas Terminals, LLC

	PBR authorization: 106.478						
	Component Type	Stream Type	Emission Factors	Control Efficiencies	Number of Components	Hourly Emissions (lb/hr)	Annual Emissions (tpy)
			Petroleum Marketing	None			
fugitive components: storage tanks	Valves	Gas/Vapor	0.0000287	0%	0	0.00	0.00
		Light Liquid	0.0000948	0%	200	0.02	0.08
		Heavy Liquid	0.0000948	0%	0	0.00	0.00
	Pumps	Light Liquid	0.00119	0%	8	0.01	0.04
		Heavy Liquid	0.00119	0%	0	0.00	0.00
	Relief Valves	Gas/Vapor	0	0%	0	0.00	0.00
		Light Liquid	0	0%	0	0.00	0.00
	Flanges	Gas/Vapor	0.000092604	0%	0	0.00	0.00
		Light Liquid	0.00001762	0%	800	0.01	0.06
		Heavy Liquid	0.0000176	0%	0	0.00	0.00
	Process Drains	Light Liquid	0	0%	0	0.00	0.00
					Total VOC:	**0.04**	**0.19**
					Total H_2S:	**0.00**	**0.00**

	PBR authorization: 106.355						
	Component Type	Stream Type	Emission Factors	Control Efficiencies	Number of Components	Hourly Emissions (lb/hr)	Annual Emissions (tpy)
			Petroleum Marketing Terminal	None			
Fugitive components: Pipeline Support Facilities	Valves	Gas/Vapor	0.0000287	0%	0	0.00	0.00
		Light Liquid	0.0000948	0%	50	0.00	0.02
		Heavy Liquid	0.0000948	0%	0	0.00	0.00
	Pumps	Light Liquid	0.00119	0%	4	0.00	0.02
		Heavy Liquid	0.00119	0%	0	0.00	0.00
	Relief Valves	Gas/Vapor	0	0%	0	0.00	0.00
		Light Liquid	0	0%	0	0.00	0.00
	Flanges	Gas/Vapor	0.000092604	0%	0	0.00	0.00
		Light Liquid	0.00001762	0%	20	0.00	0.00
		Heavy Liquid	0.0000176	0%	0	0.00	0.00
	Process Drains	Light Liquid	0	0%	0	0.00	0.00
					Total VOC:	**0.01**	**0.04**
					Total H_2S:	**0.00**	**0.00**

Total All Components		
Pollutant	**lb/hr**	**ton/yr**
VOC:	**0.05**	**0.23**
H_2S:	**5.24E-07**	**2.30E-06**

Notes:

1. Emission Factors based on TCEQ's Air Permit Technical Guidance Package for Chemical Sources: Equipment Leak Fugitives, Uncontrolled SOCMI Fugitive Emission Factors, dated October 2000.

2. Percent reduction based on TCEQ's Air Permit Technical Guidance Package for Chemical Sources: Equipment Leak Fugitives, Control Efficiencies for TNRCC Leak Detection and Repair Programs, dated October 2000.

Appendix B

MSS Emission Calculations

Table B-1
Maintenance, Startup and Shutdown Emissions Summary
Bluewater Texas Terminals, LLC

Equipment Type	Activity Description	EPN	PBR authorization	Emission Rate											
				VOC		NO_x		CO		SO_2		$PM/PM_{10}/PM_{2.5}$		H_2S	
				lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy
IFR Storage Tanks	IFR tank roof landings	MSS	106.263	853.68	5.12	-	-	-	-	-	-	-	-	8.31	0.02
Misc. Piping Components	Uncontrolled equipment venting/degassing and refilling emissions.	MSS	106.263	253.81	0.58	-	-	-		-	-	-	-	0.35	8.04E-04
Air Mover & Vacuum Mover	Air Mover & Vacuum Mover	MSS	106.263	111.84	3.36	-	-	-	-	-	-	-	-	0.16	4.71E-03
Pipeline Pigging	Pig launching and receiving emissions	MSS	106.355	90.15	0.90	-	-	-	-	-	-	-	-	0.13	1.25E-03
Totals:				***1,309.48***	***9.96***	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	***8.94***	***0.03***

Notes:
1. The MSS emission calculations included in this permit application are for cap calculation purposes only. These emission calculations are not to be considered enforceable representations as to the magnitude, duration, and/or frequency of individual activities.

Table B-2
MSS Activities: Storage Tank Landings
Bluewater Texas Terminals, LLC

Constants		
Atmospheric Pressure	psia	14.75
Max Daily Ambient Temperature	deg F	91.90
Min Daily Ambient Temperature	deg F	73.70
Daily Total Solar Insulation Factor	Btu/(ft2*day)	1919.80
Daily Average Ambient Temperature	deg R	542.47

Tank Data					
Parameter		Tank-1	Tank-2	Tank-3	Tank-4
Material		Crude Oil	Crude Oil	Wastewater	Wastewater
Crude Oil Service?	Y/N	Y	Y	Y	Y
Shell Clingage	bbl/1000ft^2	0.6	0.6	0.6	0.6
Tank Type		IFR	IFR	IFR	IFR
Diameter	ft	135.00	135.00	135.00	135.00
Landings per Year		1	1	1	1
High Roof Leg Height	ft	6.50	6.50	6.50	6.50
Number of Days Roof Off-Float	days	3	3	3	3
Liquid Heel		Drain	Drain	Drain	Drain
Height of Liquid Heel	ft	0.001	0.001	0.001	0.001
Filling Pump-In Rate	bbl/hr	46,000	46,000	46,000	46,000
Maximum H_2S Concentration	ppm	1403.84	1403.84	1403.84	1403.84
Vapor Pressure Method		RVP	RVP	RVP	RVP
Reid Vapor Pressure	psia	9.500	9.500	9.500	9.500
Vapor Molecular Wt.	lb/lbmole	50	50	50	50
Stock Liquid Density	lb/gal	7.10	7.10	7.10	7.10
Height of Vapor Space	ft	6.50	6.50	6.50	6.50
Volume of Vapor Space	ft^3	93,026	93,026	93,026	93,026
Paint Color		White	White	White	White
Paint Solar Absorptance		0.17	0.17	0.17	0.17
Daily Vapor Temp. Range	deg R	22.24	22.24	22.24	22.24
Liquid Bulk Temperature	deg R	542.49	542.49	542.49	542.49
Daily Avg. Liquid Surface Temp.	deg R	559.67	559.67	559.67	559.67
Vapor Pressure Equation Constant A		10.64	10.64	10.64	10.64
Vapor Pressure Equation Constant B		4523.43	4523.43	4523.43	4523.43
Vapor Pressure Equation Constant C		NA	NA	NA	NA
Controlled?		No	No	No	No
VRU		-	-	-	-
VRU Control Device Efficiency		-	-	-	-
True Vapor Pressure of Liquid	psia	10.90	10.90	10.90	10.90
Standing Idle Losses					
Standing Idle Losses Controlled?		No	No	No	No
Vapor Space Expansion Factor		0.49	0.49	0.49	0.49
Standing Idle Saturation Factor		0.21	0.21	0.21	0.21
Vapor Pressure Function		0.32	0.32	0.32	0.32
Not to Exceed Standing Idle Losses	lb	5,065.00	5,065.00	5,065.00	5,065.00
Calculated Standing Idle Losses	lb	2,561.04	2,561.04	2,561.04	2,561.04
Standing Idle Losses	lb	2,561.04	2,561.04	2,561.04	2,561.04
Standing Idle Emission Rate - H_2S	lb/hr	3.00E-01	3.00E-01	3.00E-01	3.00E-01
Standing Idle Emission Rate - H_2S	tpy	1.80E-03	1.80E-03	1.80E-03	1.80E-03
Standing Idle Emission Rate	lb/hr	213.42	213.42	213.42	213.42
Standing Idle Emission Rate	tpy	1.28	1.28	1.28	1.28

Table B-2
MSS Activities: Storage Tank Landings
Bluewater Texas Terminals, LLC

Constants		
Atmospheric Pressure	psia	14.75
Max Daily Ambient Temperature	deg F	91.90
Min Daily Ambient Temperature	deg F	73.70
Daily Total Solar Insulation Factor	Btu/(ft2*day)	1919.80
Daily Average Ambient Temperature	deg R	542.47

Tank Data					
Parameter		Tank-1	Tank-2	Tank-3	Tank-4
Refilling Losses					
Saturation Correction Factor		---	---	---	---
Csf * S ≥ 0.15		---	---	---	---
Refilling Saturation Factor		0.15	0.15	0.15	0.15
Filling Losses	lb	1,266.25	1,266.25	1,266.25	1,266.25
Time to Refloat Roof	hr	0.36	0.36	0.36	0.36
Heat Input From Vapor	MMBtu/event	---	---	---	---
Refilling Emission Rate - H_2S	lb/hr	1.78	1.78	1.78	1.78
Refilling Emission Rate - H_2S	tpy	8.89E-04	8.89E-04	8.89E-04	8.89E-04
Refilling Emission Rate	lb/hr	1,266.25	1,266.25	1,266.25	1,266.25
Refilling Emission Rate	tpy	0.63	0.63	0.63	0.63
Total MSS Emissions					
Parameter		Tank-1	Tank-2	Tank-3	Tank-4
Tank Fugitive H_2S Emission Rates	lb/hr	2.08	2.08	2.08	2.08
	lb/day	2,119.93	2,119.93	2,119.93	2,119.93
	tpy	5.93E-03	5.93E-03	5.93E-03	5.93E-03
Tank Fugitive VOC Emission Rates	lb/hr	213.42	213.42	213.42	213.42
	lb/day	2.98	2.98	2.98	2.98
	tpy	1.28	1.28	1.28	1.28

Note:
1.) Daily Emissions will be managed to comply with RQs.
2.) For all tanks the maximum true vapor pressure is 10.9 psia.

Table B-4
MSS Activities: Vessels & Piping Maintenance
Bluewater Texas Terminals, LLC

Basis

- Calculation methods taken from the TCEQ Terminal MSS Calculations spreadsheet available here: http://www.tceq.texas.gov/permitting/air/guidance/newsourcereview/nsr-chem.html
- Forced ventilation will not be used.
- Entire event is assumed to occur in one hour for emission estimating purposes.
- Daily Emissions will be managed to comply with RQs.

Pollutant	Total Uncontrolled Emission Rates	
	lb/hr	tpy
VOC	253.81	0.58
H_2S	0.35	0.0008

Equipment Type		Pumps	Filter/ Meter/ Valve	Vessels and Piping
Annual Venting/Draining/Refilling Events	events/yr	15	25	3
Short-Term Venting/Draining/Refilling Events	events/hr	2	4	1
Material	-	Crude Oil	Crude Oil	Crude Oil
Max Liquid H_2S Concentration	ppmw	10	10	10
Max Vapor H_2S Concentration	ppmw	1,404	1,404	1,404
Molecular Weight of Vapor	lb/lb-mole	50	50	50
Liquid Density	lb/gal	7.1	7.1	7.1
Daily Max Liquid Surface Temp.	°R	559.67	559.67	559.67
Max Assumed Vapor Pressure	psia	10.90	10.90	10.90
Equipment Length	length (ft)	4.00	4.00	125.00
Equipment Diameter	diameter (ft)	4.00	4.00	2.50
Volume	ft^3/event	50.27	50.27	613.59
Equipment Inner Surface Area	ft^2	75.40	75.40	991.57
Equipment MSS - Liquid Draining				
Vented to Control	Yes/No	No	No	No
Equipment Draining Saturation Factor	-	1.45	1.45	1.45
Equipment Draining Loading Loss	lbs/1,000 gals	17.59	17.59	17.59
Total Emissions per Event	lbs/event	6.61	6.61	8.07
Equipment Draining H_2S Loading Loss	lbs/hr	0.0186	0.0371	0.0113
Equipment Draining H_2S Loading Loss	tpy	0.000070	0.000116	0.000017
Equipment Draining VOC Loading Loss	lbs/hr	13.23	26.46	8.07
Equipment Draining VOC Loading Loss	tpy	0.0496	0.0827	0.01
Equipment MSS - Residual Liquid				
Residual Liquid Thickness	ft	0.00003	0.00003	0.00003
Residual Liquid H_2S Losses	lbs/hr	0.00000	0.00001	0.00002
Residual Liquid H_2S Losses	tpy	0.0000000	0.0000000	0.0000000
Residual Liquid VOC Losses	lbs/hr	0.27	0.53	1.76
Residual Liquid VOC Losses	tpy	0.001	0.002	2.63E-03
Equipment MSS - Venting				
Vented to Control	Yes/No	No	No	No
Moles	M_v/event	0.0912	0.0912	1.1137
Controlled Venting H_2S Emissions	lbs/hr	0.0128	0.0256	0.0782
Controlled Venting H_2S Emissions	tpy	0.000048	0.000080	0.000117
Controlled Venting VOC Emissions	lbs/hr	9.12	18.25	55.69
Controlled Venting VOC Emissions	tpy	0.0342	0.0570	0.08
Equipment MSS - Post Control Venting				
Atmospheric Vented VOC Emissions (5,000 ppm after Control)	lbs/event	-	-	-
Venting Duration	hrs	-	-	-
Atmospheric Venting H_2S Emissions	lb/hr	-	-	-
Atmospheric Venting H_2S Emissions	tpy	-	-	-
Atmospheric Venting VOC Emissions	lb/hr	-	-	-
Atmospheric Venting VOC Emissions	tpy	-	-	-
Equipment MSS - Refilling				
Vented to Control	Yes/No	No	No	No
Refilling Saturation Factor	-	1.45	1.45	1.45
Refilling VOC Loading Loss	lbs/1,000 gals	17.59	17.59	17.59
Refilling VOC Loading Loss	lbs/event	6.61	6.61	80.75
Refilling H_2S Emissions	lb/hr	0.0186	0.0371	0.1134
Refilling H_2S Emissions	tpy	0.000070	0.000116	0.000170
Refilling VOC Loading Loss	lbs/hr	13.23	26.46	80.75
Refilling VOC Loading Loss	tpy	0.0496	0.0827	0.1211

Liquid Draining & Refilling

Emissions, lb/hr = 12.46 * S * P * M / T

Where:

L = Loading Losses, lb/1000 gallons

S = Saturation Factor, see Table 5.2-1 in AP-42, Section 5.2.

P = True vapor pressure, psia

M = Molecular weight of vapors, lb/lb-mol

T = Temperature of bulk liquid loaded, R (F + 460)

Residual Liquid Clingage

Average casing surface area (ft^2) * Residual liquid thickness (ft) * Density (lb/gal) * 7.48 gal/ft^3

Forced Ventilation (not used)

Emissions, lb/hr = 0.0000414 * $U_S^{0.78}$ * VP * $MW^{0.67}$ * $A_P^{0.94}$

where:

U_S = wind speed, m/s

VP = vapor pressure, Pa

MW = molecular weight of vapors

A_P = service area, m^2

Venting Emissions after Control

Ec = 0.005 * V_L/379 M_{wm}

Where:

Ec = Emissions vented to atmosphere after controlled degassing (lb)

V_L = Equipment volume (ft^3)

M_{wm} = Molecular weight (lbs/mole)

Table B-5
MSS Activities: Temporary Product Transfer
Bluewater Texas Terminals, LLC

Basis		
Crude Oil HHV:	20,000	Btu/lb
Max Liquid Temp:	95	°F
Vapor MW:	50	lb/lbmol
Crude Oil Max TVP:	10.9	psia
Crude Oil Average TVP	8.81	
Annual Assist Gas Rate:	4.09	MMBtu/hr
Annual Assist Gas Rate:	4,094	MMBtu/yr

Product Transfer Scenario	Material	H_2S Vapor Content (ppmw)	Saturation Factor	Loading Loss (lb/Kbbl)	Throughput		H_2S Emission Rates		VOC Emission Rates	
					bbl/hr	bbl/yr	lb/hr	tpy	lb/hr	tpy
Frac Tank	Crude Oil	1,404	1.45	745.58	50	3,000	0.05	1.57E-03	37.28	1.118
Air Mover & Vacuum Mover	Crude Oil	1,404	1.45	745.58	50	3,000	0.10	0.00	74.56	2.2368
						Total	***0.16***	***0.005***	***111.84***	***3.355***

Notes:

1. Emissions calculated based on loading loss equation (Equation 1, AP-42, Section 5.2)
2. If using positive displacement pumps, 1 X loading loss equation is used. If using air blowers, 2 X loading loss equation is used.

Table B-6
MSS Activities: Pipeline Pig Launching Emissions
Bluewater Texas Terminals, LLC

Basis		
Line Pressure:	25	psia
Average Ambient Temperature:	459.67	°R
Ideal Gas Constant:	10.731	ft3 psi / °R lbmol
Pipeline Diameter:	30	inches
Reciever Length:	71.30	ft
Reciever Volume:	350.00	ft3
Reciever Surface Area:	569.82	ft2
Material MW:	50	lb/lbmol
Liquid Density	7.1	lb/gal
Clingage Thickness:	0.0004	inches
Clingage Volume:	0.0190	ft3
Number of piggings per year:	20	events / yr
Pigging event duration:	1	hr/event
Max Liquid H_2S Concentration:	10	ppmw
Max Vapor H_2S Concentration:	1,404	ppmw

Pollutant	Uncontrolled Venting Emissions			
	Clingage/Residual Material		Uncontrolled Degassing	
	lb/hr	tpy	lb/hr	tpy
VOC	1.01	0.010	89.14	0.891
H_2S	1.01E-05	1.01E-07	1.25E-01	1.25E-03
		VOC Totals:	**90.15**	**0.90**
		H_2S Totals:	**1.25E-01**	**1.25E-03**

Notes:

1. Uncontrolled clingage emissions were calculated based on the methodology from TCEQ's MSS Guidance Document.

Appendix D

Applicable PBR Rule Text

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Texas Administrative Code

TITLE 30	ENVIRONMENTAL QUALITY
PART 1	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 106	PERMITS BY RULE
SUBCHAPTER K	GENERAL
RULE §106.263	Routine Maintenance, Start-up and Shutdown of Facilities, and Temporary Maintenance Facilities

(a) This section authorizes routine maintenance, start-up and shutdown of facilities, and specific temporary maintenance facilities except as specified in subsection (b) of this section.

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

(1) construction of any new or modified permanent facility;

(2) reconstruction under 40 Code of Federal Regulations, Part 60, New Source Performance Standards, Subpart A, §60.15 (relating to Reconstruction);

(3) physical or operational changes to a facility which increase capacity or production beyond previously existing performance levels or results in the emission of a new air contaminant;

(4) facilities and sources that are de minimis as allowed in §116.119 of this title (relating to De Minimis Facilities or Sources);

(5) piping fugitive emissions authorized under a permit or another permit by rule; and

(6) any emissions associated with operations claimed under the following sections of this chapter:

(A) §106.231 of this title (relating to Manufacturing, Refinishing, and Restoring Wood Products);

(B) §106.351 of this title (relating to Salt Water Disposal (Petroleum));

(C) §106.352 of this title (relating to Oil and Gas Production Facilities);

(D) §106.353 of this title (relating to Temporary Oil and Gas Facilities);

(E) §106.355 of this title (relating to Pipeline Metering, Purging, and Maintenance);

(F) §106.392 of this title (relating to Thermoset Resin Facilities);

(G) §106.418 of this title (relating to Printing Presses);

(H) §106.433 of this title (relating to Surface Coat Facility);

(I) §106.435 of this title (relating to Classic or Antique Automobile Restoration Facility);

(J) §106.436 of this title (relating to Auto Body Refinishing Facility); and

(K) §106.512 of this title (relating to Stationary Engines and Turbines).

(c) The following activities and facilities are authorized under this section:

(1) routine maintenance activities which are those that are planned and predictable and ensure the continuous normal operation of a facility or control device or return a facility or control device to normal operating conditions;

(2) routine start-ups and shutdowns which are those that are planned and predictable; and

(3) temporary maintenance facilities which are constructed in conjunction with maintenance activities. Temporary maintenance facilities include only the following:

(A) facilities used for abrasive blasting, surface preparation, and surface coating on immovable fixed structures;

(B) facilities used for testing and repair of engines and turbines;

(C) compressors, pumps, or engines and associated pipes, valves, flanges, and connections, not operating as a replacement for an existing authorized unit;

(D) flares, vapor combustors, catalytic oxidizers, thermal oxidizers, carbon adsorption units, and other control devices used to control vent gases released during the degassing of immovable, fixed process vessels, storage vessels, and associated piping to atmospheric pressure, plus cleaning apparatus that will have or cause emissions;

(E) temporary piping required to bypass a unit or pipeline section undergoing maintenance; and

(F) liquid or gas-fired vaporizers used for the purpose of vaporizing inert gas.

(d) Emissions from routine maintenance (excluding temporary maintenance facilities), start-up, and shutdown are:

(1) limited to 24-hour emission totals which are less than the reportable quantities defined in §101.1(82) of this title (relating to Definitions) for individual occurrences;

(2) required to be authorized under Chapter 116 of this title (relating to Control of Air Pollution by Permits for New Construction or Modification) or comply with §101.7 and §101.11 of this title (relating to Maintenance, Start-up and Shutdown Reporting, Recordkeeping, and Operational Requirements, and Demonstrations) if unable to comply with paragraph (1) of this subsection or subsection (f) of this section; and

(3) required to comply with subsection (f) of this section.

(e) In addition to the emission limits in subsection (f) of this section, specific temporary maintenance facilities as listed in subsection (c)(3) of this section must meet the following additional requirements:

(1) flares or vapor combustors must meet the requirements of §106.492(1) and (2)(C) of this title (relating to Flares);

(2) catalytic oxidizers must meet the requirements of §106.533(5)(C) of this title (relating to Water and Soil Remediation);

(3) thermal oxidizers must meet the requirements of §106.493(2) and (3) of this title (relating to Direct Flame Incinerators);

(4) carbon adsorption systems must meet the requirements of §106.533(5)(D) of this title;

(5) other control devices used to control vents caused by the degassing of process vessels, storage vessels, and associated piping must have an overall vapor collection and destruction or removal efficiency of at least 90%;

(6) any temporary maintenance facility that cannot meet all applicable limitations of this section must obtain authorization under Chapter 116 of this title; and

(7) temporary maintenance facilities may not operate at a given location for longer than 180 consecutive days or the completion of a single project unless the facility is registered. If a single project requires more than 180 consecutive days to complete, the facilities must be registered using a PI-7 Form, along with documentation on the project. Registration and supporting documentation shall be submitted upon determining the length of the project will exceed 180 days, but no later than 180 days after the project begins.

(f) All emissions covered by this section are limited to, collectively and cumulatively, less than any applicable emission limit under §106.4(a)(1) - (3) of this title (relating to Requirements for Permitting by Rule) in any rolling 12-month period.

(g) Facility owners or operators must retain records containing sufficient information to demonstrate compliance with this section and must include information listed in paragraphs (1) - (4) of this subsection. Documentation must be separate and distinct from records maintained for any other air authorization. Records must identify the following for all maintenance, start-up, or shutdown activities and temporary maintenance facilities:

(1) the type and reason for the activity or facility construction;

(2) the processes and equipment involved;

(3) the date, time, and duration of the activity or facility operation; and

(4) the air contaminants and amounts which are emitted as a result of the activity or facility operation.

Source Note: The provisions of this §106.263 adopted to be effective November 1, 2001, 26 TexReg 8518

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TITLE 30	ENVIRONMENTAL QUALITY
PART 1	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 106	PERMITS BY RULE
SUBCHAPTER O	OIL AND GAS
RULE §106.355	Pipeline Metering, Purging, and Maintenance

Metering, purging, and maintenance operations for gaseous and liquid petroleum pipelines (including ethylene, propylene, butylene, and butadiene pipelines), between separate sites as defined in §122.10(29) of this title (relating to General Definitions), are permitted by rule provided that operations are conducted according to the following conditions of this section:

(1) emissions of volatile organic compounds, except equipment leak fugitive emissions, are burned in a smokeless flare; or

(2) total uncontrolled emissions of any air contaminant except carbon dioxide, water, nitrogen, methane, ethane, hydrogen, and oxygen may not exceed one ton during any metering, purging, or maintenance operation. Uncontrolled butadiene emissions may not exceed 0.04 pounds per hour.

(3) venting of sweet, natural gas from pipelines is exempt from paragraphs (1), (2), and (5) of this section. Operators may not vent gas in areas of known or suspected ignition sources.

(4) if any maintenance activity cannot meet all of the requirements of this section, or the emissions are not authorized under Chapter 116 of this title (relating to Control of Air Pollution by Permits for New Construction or Modification), then activities must comply with §101.7 and §101.11 of this title (relating to Maintenance, Start-up and Shutdown Reporting, Recordkeeping, and Operational Requirements; and Demonstrations).

(5) records of all maintenance and purging emissions must be kept by the owner or operator of the facility or group of facilities at the nearest office within Texas having day-to-day operational control. These records must include all information required in this paragraph and in paragraphs (1) - (4) of this section. Resetting flow meters (changing orifice plates, etc.) and calibration of meters are considered routine operations under this rule, not maintenance or purging. Records must identify the following for all maintenance and purging activities covered by this section:

(A) the type and reason for the activity;

(B) the processes and equipment involved;

(C) the date, time, and duration of the activity; and

(D) the air contaminants and amounts which are emitted as a result of the activity.

Source Note: The provisions of this §106.355 adopted to be effective March 14, 1997, 22 TexReg 2439; amended to be effective September 4, 2000, 25 TexReg 8653; amended to be effective November 1, 2001, 26 TexReg 8518

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TITLE 30	ENVIRONMENTAL QUALITY
PART 1	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 106	PERMITS BY RULE
SUBCHAPTER U	TANKS, STORAGE, AND LOADING
RULE §106.472	Organic and Inorganic Liquid Loading and Unloading

Liquid loading or unloading equipment for railcars, tank trucks, or drums; storage containers, reservoirs, tanks; and change of service of material loaded, unloaded, or stored is permitted by rule, provided that no visible emissions result and the chemicals loaded, unloaded, or stored are limited to:

(1) the following list: asphalt, resins, soaps, lube oils, fuel oils, waxes, polymers, detergents, lube oil additives, kerosene, wax emulsions, vegetable oils, greases, animal fats, and diesel fuels;

(2) water or wastewater;

(3) aqueous salt solutions;

(4) aqueous caustic solutions, except ammonia solutions;

(5) inorganic acids except oleum, hydrofluoric, and hydrochloric acids;

(6) aqueous ammonia solutions if vented through a water scrubber;

(7) hydrochloric acid if vented through a water scrubber;

(8) acetic acid if vented through a water scrubber;

(9) organic liquids having an initial boiling point of 300 degrees Fahrenheit or greater. Facilities loading, unloading, or storing butyric acid, isobutyric acid, methacrylic acid, mercaptans, croton oil, 2- methyl styrene, or any other compound with an initial boiling point of 300 degrees Fahrenheit or greater listed in 40 Code of Federal Regulations 261, Appendix VIII shall be located at least 500 feet from any recreational area or residence or other structure not occupied or used solely by the owner of the facility or the owner of the property upon which the facility is located.

Source Note: The provisions of this §106.472 adopted to be effective March 14, 1997, 22 TexReg 2439; amended to be effective September 4, 2000, 25 TexReg 8653

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CHAPTER 106	PERMITS BY RULE
SUBCHAPTER U	TANKS, STORAGE, AND LOADING
RULE §106.478	Storage Tank and Change of Service

Any fixed or floating roof storage tank, or change of service in any tank, used to store chemicals or mixtures of chemicals shown in Table 478 in paragraph (8) of this section is permitted by rule, provided that all of the following conditions of this section are met:

(1) The tank shall be located at least 500 feet away from any recreational area or residence or other structure not occupied or used solely by the owner of the facility or the owner of the property upon which the facility is located.

(2) The true vapor pressure of the compound to be stored shall be less than 11.0 psia at the maximum storage temperature.

(3) For those compounds that have a true vapor pressure greater than 0.5 psia and less than 11.0 psia at the maximum storage temperature, any storage vessel larger than 40,000 gallons capacity shall be equipped with an internal floating cover or equivalent control.

(A) An open top tank containing an external floating roof using double seal technology shall be an approved control alternative equivalent to an internal floating cover tank, provided the primary seal consists of either a mechanical shoe seal or a liquid-mounted seal. Double seals having a vapor- mounted primary seal are an approved alternative for existing open top floating roof tanks undergoing a change of service.

(B) The floating cover or floating roof design shall incorporate sufficient flotation to conform to the requirements of American Petroleum Institute Code 650, Appendix C or an equivalent degree of flotation.

(4) Compounds with a true vapor pressure of 0.5 psia or less at the maximum storage temperature may be stored in a fixed roof or cone roof tank which includes a submerged fill pipe or utilizes bottom loading.

(5) For fixed or cone roof tanks having no internal floating cover, all uninsulated tank exterior surfaces exposed to the sun shall be painted chalk white except where a dark color is necessary to help the tank absorb or retain heat in order to maintain the material in the tank in a liquid state.

(6) Emissions shall be calculated by methods specified in Section 4.3 of the current edition of the United States Environmental Protection Agency Publication AP-42. This document may be obtained from the Superintendent of Documents, Washington D.C. 20402. It is Stock Number 0550000251-7, Volume I.

(7) Before construction begins, storage tanks of 25,000 gallons or greater capacity and located in a designated nonattainment area for ozone shall be registered with the commission's Office of Permitting, Remediation, and Registration in Austin using Form PI-7. The registration shall include a list of all tanks, calculated emissions for each carbon compound in tons per year for each tank, and a Table 7 of Form PI-2 for each different tank design.

(8) Mixtures of the chemicals listed in Table 478 which contain more than a total of 1.0% by volume of all other chemicals not listed in Table 478 are not covered by this section.

Attached Graphic

Source Note: The provisions of this §106.478 adopted to be effective March 14, 1997, 22 TexReg 2439; amended to be effective September 4, 2000, 25 TexReg 8653

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PART 1	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 106	PERMITS BY RULE
SUBCHAPTER X	WASTE PROCESSES AND REMEDIATION
RULE §106.532	Water and Wastewater Treatment

Water and wastewater treatment units are permitted by rule, provided the following conditions of this section are met.

(1) The facility performs only the following functions:

(A) disinfection;

(B) softening;

(C) filtration;

(D) flocculation;

(E) stabilization;

(F) taste and odor control;

(G) clarification;

(H) carbonation;

(I) sedimentation;

(J) neutralization;

(K) chlorine removal;

(L) activated sludge treatment, anaerobic treatment, and associated control of gases from these treatments;

(M) aerobic oxidation/biodegration using oxygen or peroxide in the absence of nitrogen or other gas that would cause stripping of volaltile organic compounds (VOC) from the water;

(N) stripping VOC, ammonia, or other air contaminants from the water with air or other gas, provided the stripped gases are controlled with an abatement system that meets the requirements of §106.533(5) of this title (relating to Water and Soil Remediation). For ammonia or hydrogen chloride (HCl) or other acid gas emissions, abatement may include a water or caustic scrubbing system as a means of complying with this section. Final emissions of HCl resulting from combustion of chlorine or chlorine-containing compounds shall not exceed 0.1 pounds per hour;

(O) liquid phase separation of VOC and water in which:

(i) the sum of the partial pressures of all species of VOC in any sample is less than 1.5 psia; or

(ii) the separator is enclosed and emissions are vented through an emission abatement system meeting the requirements specified previously for stripped VOC and ammonia;

(2) Chlorine or sulfur dioxide (SO_2) shall be used only in containers approved by the United States Department of Transportation and emissions of chlorine or SO_2 from treatment of water or decontamination of equipment at any water treatment plant shall not exceed ten tons per year.

(3) The following shall not be permitted by rule under this section:

(A) gas stripping or aeration facilities where VOC or other air contaminants are stripped from water directly to the atmosphere;

(B) disposal facilities using land surface treatment;

(C) surface facilities associated with injection wells;

(D) cooling towers in which VOC or other air contaminants may be stripped to the atmosphere.

Source Note: The provisions of this §106.532 adopted to be effective March 14, 1997, 22 TexReg 2439; amended to be effective September 4, 2000, 25 TexReg 8653

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