



Guidance for Bulk Crude Oil Storage regulated by TCEQ

Updated April 23, 2020

Amid the COVID-19 pandemic, TCEQ has received numerous inquiries related to the regulatory requirements of temporary storage of excess crude oil in aboveground storage tanks (ASTs) at locations not regulated by the Railroad Commission of Texas (RRC). While the storage of crude oil in ASTs is not regulated under TCEQ Petroleum Storage Tank (PST) rules, there are other permitting, reporting, and spill requirements that we regulate. The purpose of this guide is to summarize TCEQ's regulatory oversight for those storage tanks in Texas. Please note that the requirements for authorization of air emissions and Tier Two reporting are applicable to crude oil storage at locations that are under the jurisdiction of either the TCEQ or the RRC.

General Requirements for Bulk Storage of Crude

- Crude oil storage is not regulated in PST rules for ASTs as it does not meet the definition of petroleum product – Title 30, Texas Administrative Code (30 TAC), Sections §§ [334.121\(a\)](#) and [334.2\(84\)](#). Therefore, the registration and release reporting requirements for ASTs in Chapter 334 do not apply.
- Spill prevention and control rules in [30 TAC Chapter 327](#) rules do apply for storage of crude oil. This chapter provides general spill prevention requirements
- If an entity is covered under the Multi-Sector General Permit (MSGP), it will need to incorporate any additional crude oil storage in its Stormwater Pollution Prevention Plan.
- If storage is occurring over the Edwards Aquifer Recharge or Transition Zone, [30 TAC Chapter 213](#) rules, including secondary containment, may apply prior to construction and use of an AST. Chapter 213 provides protection of the Edwards Aquifer.
- Any secondary containment requirements are implemented directly by EPA through [Title 40, Code of Federal Regulations \(CFR\) Part 112](#) and not by TCEQ.
- Also, there may be local government and/or fire marshal requirements and additional regulations within the city, county, or other local jurisdictions.

Air Permitting of Crude Storage

The storage of crude oil in ASTs requires an air authorization through either a Permit by Rule (PBR) or a case-by-case New Source Review (NSR) permit prior to construction or operation of the tanks. All emissions from operation of the storage tanks, and any other emissions from the project due to truck, rail or marine loading, roof landings, and/or maintenance, startup and shutdown must be authorized.

Under current air permitting rules, there is not a specific definition of a crude storage terminal.

Permit by Rule (PBR)

- PBR registrations can authorize the construction and/or operation of new crude storage tank facilities that meet the specific requirements of 30 Texas Administrative Code (TAC) Chapter 106, Subchapter U (§§ 106.473 and 106.478).
 - **30 TAC § 106.473:** Organic Liquid Loading and Unloading
 - **30 TAC § 106.478:** Storage Tank and Change of Service

*Please note that unloading of crude can be authorized under 30 TAC § 106.261 Facilities (Emission Limitations).

- **30 TAC §§ 106.473, and § 106.478** can also authorize the change of service for NSR permitted storage tanks.
- PBR requirements include control, monitoring, and throughput limitations that depend on the size of the tank, chemical stored, and location of the facility.
- If the storage tank(s) cannot meet the specific requirements of the PBR authorization, authorization under a case-by-case NSR permit would be required.
- PBRs may require registration which can be submitted using the TCEQ online [STEERs system](#).

Case-by-Case NSR Permit

- If a NSR permit is required, best available control technology (BACT) is required to be installed for the storage tanks. This includes, but is not limited to, the following requirements:
 - All tanks must be equipped with permanent submerged fill pipes and be painted white or unpainted aluminum.
 - Atmospheric storage tanks shall not be permitted to store material with a vapor pressure greater than 11.0 psia at 95 degrees Fahrenheit (°F) without a closed vent system routed to control.
 - Material with a vapor pressure greater than 0.5 psia at 95 °F that is stored in tanks that are greater than 25,000 gallons must be stored in either an internal floating roof tank, an external floating roof tank, or a fixed roof tank with vents routed to an emissions control device.
 - Material with a vapor pressure less than 0.5 psia at 95 °F or material being stored in a tank that is less than 25,000 gallons may be stored in a fixed roof tank.
 - New tanks shall be constructed with a drain-dry sump and floating roof tanks shall be equipped with connections to route vapors to a control device during landings.
- In addition to meeting BACT requirements, an impacts analysis and federal applicability analysis will also be required based on permit program requirements.
- Initial case-by-case NSR permits and some permit amendments are subject to two 30-day public notice periods per 30 TAC § 39.402(a).
- Additional information on permitting of storage tanks may be found at https://www.tceq.texas.gov/permitting/air/guidance/newsourcereview/tanks/nsr_fac_tank_s.html
- To apply for a case-by-case permit, prepare and submit a PI-1 workbook and all supporting technical and administrative information. The PI-1 may be found at <https://www.tceq.texas.gov/permitting/air/guidance/newsourcereview/nsrapp-tools.html>

Control of Volatile Organic Compounds (VOC) for Crude Storage

Control requirements for the storage of crude are specified in [30 TAC Chapter 115, Subchapter B, Division 1](#).

Control Requirements

- Individual tanks storing crude oil are required to control emissions based on vapor pressure of liquid, tank storage capacity, and location of tank (§115.112(e)(1)); see table below.
- Individual tanks or aggregate of tanks at a pipeline breakout station or tank battery storing crude oil prior to custody transfer in the Dallas-Fort Worth (DFW¹) and the Houston-Galveston-Brazoria (HGB²) areas are required to control flash gases if emissions from tank(s) meet a major source threshold (§115.112(e)(5)).
 - 50 tons per year (tpy) of VOC in the DFW area, except Wise County; currently 100 tpy of VOC in Wise County then 50 tpy beginning July 20, 2021
 - 25 tpy of VOC in the HGB area
- Tanks with certain capacity limits qualify for exemption in 30 TAC Chapter 115, Subchapter B, Division 1.
 - Tanks with capacity < 210,000 gal prior to custody transfer in Beaumont-Port Arthur (BPA³) and El Paso⁴ areas, and Gregg, Nueces, and Victoria Counties, are exempt from the division
- Other requirements in Subchapter B, Division 1 apply, such as vapor control system monitoring requirements (§115.115) and tank inspection and repair requirements (§115.114).

¹ DFW Area – Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise Counties

² HGB Area – Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties

³ BPA Area – Hardin, Jefferson, and Orange Counties

⁴ EL Paso Area – El Paso County

Area	True Vapor Pressure (pounds per square inch)	Tank Storage Capacity (gallon)	Control Requirements
BPA, DFW, El Paso, and HGB areas, and Gregg, Nueces, and Victoria Counties	≥ 1.5 psia and < 11 psia	> 1,000 gal and ≤ 40,000 gal	Submerged fill pipe or vapor control system
	≥ 1.5 psia and < 11 psia	> 40,000 gal	Internal floating roof, or External floating roof with primary seal (any type) and secondary seal, or vapor control system
	≥ 11 psia	> 1,000 gal and ≤ 40,000 gal	Submerged fill pipe or vapor control system
	≥ 11 psia	> 40,000 gal	Submerged fill pipe and vapor control system
Matagorda and San Patricio Counties	NA	>420,000 gal	Pressure tank capable of maintaining working pressures at all times to prevent vapor or gas loss to the atmosphere, or internal floating roof or external floating roof if <11 psia, or vapor control system

**Degassing requirements in Chapter 115, Subchapter F, Division 3 may apply.*

Inspection and Reporting Requirements

- If a facility is planning to transition any bulk storage tank to a crude oil storage tank, all inspections should be performed, including required seal gap, fittings, and integrity inspections, prior to filling with crude.
- If a facility is planning to bring a bulk storage tank into service for crude storage, all inspections should be performed, including required seal gap, fittings, and integrity inspections, prior to filling with crude.
- If tanks currently hold diesel (a regulated petroleum product) in a TCEQ registered tank, a facility must submit an AST Registration Form (Form 0659) to indicate the tank is no longer being used to store a regulated substance. In addition, the registration must also indicate the date storage of the regulated petroleum product has stopped.
- Any unauthorized emissions during filling or anytime during crude storage must be reported to the agency.

Tier II Reporting Requirements

- If a facility converts storage tanks to crude storage, reporting may be required under the agency's Tier II requirements in 30 TAC, Chapter 325.
- Within 90 days of storage of 10,000 pounds (lbs) or more of crude, an Initial Report must be filed under Tier II, including locational information of the crude storage. This reporting is required to include the TCEQ, local fire departments, and the Local Emergency Planning Committee (LEPC).

- If a Regulated Entity is increasing its current crude storage in excess of 10,000 lbs, an Updated Report must be filed under Tier II. This reporting is required to include the TCEQ, local fire departments, and the LEPC.

Industrial Stormwater

Some facilities that store crude oil in tanks will need industrial stormwater coverage under the Multi-Sector General Permit (MSGP) (TXR050000) based on what type of activity is conducted at the facility. If you discharge stormwater and your facility has the SIC code 5171 (explained below) and you conduct vehicle and equipment maintenance (including rehabilitation, mechanical repairs, painting, fueling, lubrication, and cleaning), you will need to obtain coverage under the MSGP. If your facility has the SIC Code 5171 and you do not conduct vehicle and equipment maintenance, you will not need coverage under the MSGP.

SIC Code 5171 Petroleum Bulk stations and Terminals:

Establishments primarily engaged in the wholesale distribution of crude petroleum and petroleum products, including liquefied petroleum gas, from bulk liquid storage facilities.

More information on how to obtain coverage can be found on our [Assistance Tools for Industrial Stormwater webpage](#). If you already have coverage under the MSGP, you will need to incorporate any additional crude oil storage in your Stormwater Pollution Prevention Plan.