Your Partner in Environmental Compliance

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I thought I was exempt?!

*Regulatory Applicability and Permitting in Texas*
Jurisdictions

- TCEQ: Water Use/Rights
- RRC: Hazardous Material Storage
- TDSHS: Air Quality Spills Wastewater Waste
- EPA: Stormwater
Exemption Myths

**Myth**-My operations/site are small. I don’t need an air permit.

**Correction**-All oil and gas production phase emissions must claim and provide supporting documentation for a New Source Review authorization. Registration requirements vary.

Proof may be requested by TCEQ during complaint or leak investigations.
Permitting Hierarchy

New Source Review (NSR)

- Nonattainment New Source Review (NNSR) & Prevention of Significant Deterioration (PSD) Permits [Federal]
- New Source Review (NSR) Permit [State]
- Standard Permit
- Permit by Rule (PBR)

Cannot exceed 25 TPY VOC
Permitting Hierarchy

Title V

- Minor
  - General Operating Permit (GOP)
    - Site Operating Permit (SOP)

- 100 TPY any pollutant (attainment areas)
- lower in nonattainment areas

- Can use APD-CERT to maintain minor status (synthetic minor)
TCEQ—Air Quality (NSR)

Salt Water Disposal Permit by Rule (PBR) 106.351
Submit application **before construction begins**, unless one of the following **exceptions** applies:

- All delivery of salt water takes place through enclosed hoses or lines, and all storage and handling of salt water takes place in enclosed conduits, vessels, and storage, so that the salt water is not exposed to the atmosphere; or

- Delivery of salt water < **540,000 gallons/day**
Temporary Oil and Gas Facilities PBR 106.353
Authorizes temporary equipment for $\leq 90$ operating days, if the following conditions are met:

- The purpose of the 90-day period is to test the content of a subsurface stratum and/or to establish the proper design of a permanent fluid-handling facility
- Sour gas is burned in a smokeless flare
- Total sulfur compound emissions $< 4.0$ lb/hr (including $\text{H}_2\text{S}$, excluding $\text{SO}_x$)
- Operation beyond the 90-day period is not allowed using this PBR
TCEQ—Air Quality (NSR)

Oil and Gas Handling and Production Facilities PBR 106.352(l)
Non-Barnett Shale
Register if compressor > 240 HP or if H$_2$S > 24 ppm (sour)

- Compressors comply with PBR 106.512
- Flares comply with PBR 106.492
- Limited to 25 TPY SO$_2$, H$_2$S, or VOC; and 250 TPY NO$_x$ or CO
- Sour gas facilities must be located at least 1/4 mile from sensitive receptors. Total sulfur compound emissions < 4.0 lb/hr (including H$_2$S, excluding SO$_x$) and the height of each vent emitting sulfur compounds > 20 feet
Authorizations

TCEQ—Air Quality (NSR)

Oil and Gas Handling and Production Facilities PBR 106.352(a)-(k)
Barnett Shale
Register if Level 1 or Level 2
Do not register Level 0
Do not register new project at existing site if certain conditions apply
Do not register new project at existing site if:

- Addition of piping, fugitive components, any other new facilities, that increase actual emissions $\leq 1.0$ TPY VOC, $5.0$ TPY NO$_x$, 0.01 TPY benzene, and 0.05 TPY H$_2$S over a rolling 12-month period
- Changes to any existing facilities that increase certified emissions $\leq 1.0$ TPY VOC, $5.0$ TPY NO$_x$, 0.01 TPY benzene, and 0.05 TPY H$_2$S over a rolling 12-month period
- Total increases over a rolling 60-month period of time $\leq 5.0$ TPY VOC or NO$_x$, 0.05 TPY benzene, or 0.1 TPY H$_2$S
- Addition of any new engine $< 100$ HP or
- Replacement of any facility if the new facility does not increase the previous actual or certified emissions
# Level 0 Criteria

<table>
<thead>
<tr>
<th>Group</th>
<th>Product</th>
<th>Engines</th>
<th>Piping and Fugitive Components</th>
<th>Produced Water Separators*</th>
<th>Produced Water Tanks</th>
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<tr>
<td></td>
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<td></td>
<td>Open-ended Lines</td>
<td>Valves</td>
<td>Connectors &amp; Flanges</td>
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<td>1</td>
<td>Sweet Gas</td>
<td>≤ 450 HP</td>
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<tr>
<td></td>
<td>Sour Gas (H₂S ≤ 10,000 ppm)</td>
<td>≤ 100 HP</td>
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<tr>
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<td>Sour Gas (H₂S &gt; 10,000 ppm, ≤ 50,000 ppm)</td>
<td>≤ 20 HP</td>
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<tr>
<td>2</td>
<td>Natural Gas</td>
<td>---</td>
<td>≤ 135</td>
<td>≤ 135</td>
<td>≤ 2,000</td>
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<tr>
<td></td>
<td>Liquids or Natural Gas</td>
<td>---</td>
<td>≤ 25</td>
<td>≤ 25</td>
<td>≤ 2,000</td>
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<td></td>
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<td>≤ 4</td>
<td>≤ 225</td>
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<td>Crude, Condensate and/or Natural Gas</td>
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<td>≤ 5</td>
<td>≤ 150 (VOC service) &amp; ≤ 500 (water service)</td>
<td>≤ 5</td>
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<tr>
<td></td>
<td>Crude, Condensate and/or Natural Gas</td>
<td>---</td>
<td>≤ 2</td>
<td>≤ 230 (VOC service) &amp; ≤ 500 (water service)</td>
<td>≤ 2</td>
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* routed directly to sales pipeline
# Level 1 & Level 2 Criteria

<table>
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<tr>
<th>Pollutant</th>
<th>Units</th>
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<th>Level 2</th>
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<td>lb/hr**</td>
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<tr>
<td>Total natural gas VOC</td>
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<td>356</td>
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<tr>
<td>Total VOC</td>
<td>TPY</td>
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<tr>
<td>Benzene</td>
<td>lb/hr</td>
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<td>TPY</td>
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<td>H₂S</td>
<td>lb/hr</td>
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<td>SO₂</td>
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<tr>
<td>NOₓ</td>
<td>lb/hr</td>
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<td>54.4</td>
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<td>TPY</td>
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<td>TPY</td>
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<td>250</td>
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<tr>
<td>PM₂.₅</td>
<td>lb/hr</td>
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<td>12.7</td>
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<td>10</td>
</tr>
<tr>
<td>PM₁₀</td>
<td>lb/hr</td>
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<td>12.7</td>
</tr>
<tr>
<td></td>
<td>TPY</td>
<td>5</td>
<td>15</td>
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</tbody>
</table>

**Registration**
- Within 180 days after start of operation or implemented change(s)
- Within 90 days after start of operation or implemented change(s)

**Fees**
- $175 ($25 for small businesses)
- $400 ($75 for small businesses)

*Emissions after recovery or controls
**Steady state, with separate periodic limits
PBR Applicability/Registration Screening

Was the tank battery originally constructed before February 27, 2011?

- Yes
  - The site must comply with the old 30 TAC 106.352 and submit a Historical Notification.

- No
  - Was the tank battery originally constructed between February 27, 2011 and March 31, 2011?
    - No
      - The affected equipment must comply with the new 30 TAC 106.352(l) and/or 30 TAC 106.512.
    - Yes
      - Was equipment added or production increased on or after April 1, 2011?
        - No
          - The affected equipment must comply with the new 30 TAC 106.352(l) and/or 30 TAC 106.512.
        - Yes
          - The site must comply with the new 30 TAC 106.352(a)- (k).
  - Yes
    - Was equipment added or production increased between February 27, 2011 and March 31, 2011?
      - Yes
        - The affected equipment must comply with the new 30 TAC 106.352(l) and/or 30 TAC 106.512.
      - No
        - Was the tank battery originally constructed on or after April 1, 2011?
          - No
            - The site must comply with the new 30 TAC 106.352(a)-(k).
          - Yes
            - The affected equipment must comply with the new 30 TAC 106.352(a)-(k).

30 TAC 106.352 / 30 TAC 106.352(l) / 30 TAC 106.512
- Historical Notification
- Must be registered with TCEQ if compressor is >240 HP. Historical notification not required if the site is otherwise registered with TCEQ.

30 TAC 106.352(a)-(k)
- If the tank battery was originally constructed before April 1, 2011, new equipment must be registered with TCEQ if a compressor engine is > 100 HP and the new emissions are greater than 1 TPY VOC, 5 TPY NOx or 0.01 TPY benzene.
- If the tank battery was originally constructed on or after April 1, 2011 and is not Level 0, then the site must be registered with TCEQ.
- To meet Level 0 a compressor must be <450 HP and have a produced water service fugitive count of <500 and condensate service fugitive count of <150. Do not include natural gas service components in these counts.

Assessment Complete
RRC Wastewater Discharge Permits
Discharge oil and gas wastes to surface water in the state

- Application is a Letter of Request
- Hydrostatic Test Water (minor permit, valid for 30 days)
- Gas Plant Effluent
  - Issued with effluent limitations and monitoring requirements
  - Pits permitted using Form H-11
- Produced Water
  - Not permitted for discharges to bays, estuaries, and tidal areas
  - May contain effluent limitations and monitoring requirements
Authorizations

**RRC Landfarming**
Landfarming is a method of treatment and disposal of low toxicity wastes in which the wastes are spread and mixed into the soils to promote reduction of organic constituents and dilution and attenuation of metals.

- Application is a Letter of Request
- Landspread water base drilling fluid and associated cuttings
- Landtreat oil and gas wastes
- Land apply produced water
- Treat oil and gas waste as roadbase
RRC Landfarming
Landfarming of the following oil and gas waste is acceptable without a permit provided written consent is given by the surface owner and wastes is disposed of on the same lease they were generated:

- Water base drilling fluids with a chloride concentration $\leq 3000$ mg/L
- Drill cuttings
- Sands and silts obtained while using water base drilling fluids with a chloride concentration $\leq 3000$ mg/L
- Wash water used for cleaning drill pipe and other equipment at the well site
Local Authorities
- Arlington (venting not allowed, VRU required if > 1 bbl/day condensate)
- Grand Prairie (Leak Detection and Control Plan)
- Fort Worth (study showed no smoking gun, reduced emission completion, VRU required if VOC emissions > 25 TPY)
- Flower Mound (Leak Detection and Control Plan, potential for Emissions Compliance Plan)
- Lewisville (Emission Control/Reduction Plan)
- Colleyville (Leak Detection and Control Plan, baseline soil sampling)
- Denton (revisions underway, air quality is top concern)

NEPA
- Airports (TxDOT, FAA)
- Public land (BLM, GLO)
Groundwater Conservation Districts
A district may make and enforce rules, including rules limiting groundwater production based on tract size or the spacing of wells, to provide for conserving, preserving, protecting, and recharging of the groundwater or of a groundwater reservoir or its subdivisions in order to control subsidence, prevent degradation of water quality, or prevent waste of groundwater.

97 groundwater conservation districts, encompassing 172 counties

Range in size from 31 to 12,000 square miles
RRC Hydraulic Fracturing Fluid Disclosure Rule

- Applies to wells with an initial drilling permit issued on or after 2/1/2012

- Within 15 days following the completion of a hydraulic fracturing treatment on a well, suppliers/service companies must provide the operator with the identity of each chemical additive and each chemical ingredient intentionally added to the hydraulic fracturing fluid

- Operators must submit information to the Chemical Disclosure Registry "FracFocus" on or before a well completion report is submitted to RRC
RRC
Generators of Hazardous Oil and Gas Waste
If you generate more than 220.5 lbs of hazardous waste in 1 month or accumulate more than 2,204.6 lbs of hazardous waste.
- File the initial Form H-20 Generator (and Transporter) Notification and Form EPA 8700-12 notification within 10 days of becoming subject to Statewide Rule 98
- An EPA ID number will be generated for your site and is needed prior to disposal.

Federal Oil and Gas Hazardous Waste Exemption Rule
- RRC and TCEQ abide by it
- As long as the waste originated from down-hole, then you are likely exempt from federal hazardous waste reporting and recordkeeping
- Does not include waste not associated with down-hole material
122.26(c)(1)(iii) The operator of an existing or new discharge composed entirely of storm water from an oil or gas exploration, production, processing, or treatment operation, or transmission facility is not required to submit a permit application in accordance with paragraph (c)(1)(i) of this section, unless the facility:

- Has had a discharge of storm water resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 117.21, 40 CFR 302.6, or 40 CFR 110.6 at anytime since November 16, 1987; or
- Contributes to a violation of a water quality standard.

Notice of Intent (NOI)

Reasonable And Prudent Practices for Stabilization (RAPPS) recommended
Design Considerations

- Anticipate applicable regulations and requirements based on operations, equipment, and location.

- What air quality authorization is appropriate?

- Are there air quality related setback requirements?

- Does the compressor need a catalyst?

- Is planned secondary containment adequate?

- Are there local requirements?
Operating Location

- Attainment v Nonattainment
  Air quality permit thresholds may vary

- Barnett Shale v Non-Barnett Shale
  Barnett Shale counties have different thresholds

- Incorporated v Unincorporated
  Municipal requirements vary

- Distance from and Drainage to Waters of the U.S.
  SPCC may not be required
Attainment vs Nonattainment

The map illustrates various nonattainment areas in Texas, categorized by different pollutants and ozone standards. These areas include:

- El Paso Nonattainment Area
- Austin Early Action Compact Area
- Beaumont-Port
- Houston-Galveston-Brazoria
- San Antonio Early Action Compact Area and 8-Hour Ozone Nonattainment Area (deferred)
- Corpus Christi Near Nonattainment Area
- Dallas-Fort Worth 3-Hour Ozone Nonattainment Area
- North East Texas Early Action Compact Area

Each area is color-coded to indicate the specific pollutant or ozone standard that is not being met.

Additional images depict clear skies, a leaf, and a tree trunk, possibly symbolizing environmental indicators of air quality.
Barnett Shale vs Non-Barnett Shale
Myth-Produced water tanks are exempt from SPCC requirements.

Correction-Produced water tanks can be exempt from secondary containment if a P.E. certifies that a release from each produced water tank, including a complete loss of the capacity of the container, would not violate an applicable water quality standard or cause a sheen on water.

The SPCC Plan must include:
- Description of the produced water characteristics,
- Estimate of the frequency, amount of free-phase oil expected to be maintained inside the container,
- Procedure that is designed to minimize the accumulation of free-phase oil on the surface of the produced water.
Secondary containment must have enough volume to contain the largest tank plus freeboard.

Freeboard options:
- Percentage of largest tank volume typical minimum is 10%
- Rain event - EPA recommends using 24hr-25 year event for determining freeboard
Sizing Secondary Containment

- Consider a leak from the top of a tall tank to determine area around tank needed
- Think outside the box
All tank batteries must utilize at least one of the following Good Engineering Practices (GEPs) to prevent discharges of oil:

- Container capacity adequate to assure that a container will not overfill if a pumper/operator is delayed in making regularly scheduled rounds,
- Overflow equalizing lines between containers so that a full container can overflow to an adjacent container,
- Vacuum protection adequate to prevent container collapse during a pipeline run or other transfer of oil from the container, or
- High level sensors to generate and transmit an alarm signal to the computer where the facility is subject to a computer production control system