



Produced Wastewater Permitting

May 2024

Agenda

- Background for Implementing House Bill 2771
- Management and Location Considerations of Produced Wastewater
- Applicable regulations
- Permitting Options

Overview

House Bill (HB) 2771, 86th Legislative Session, transfer of oil and gas permitting authority to TCEQ for discharges to surface water in the state.

Prior to HB 2771, oil and gas extraction operations were required to obtain separate National Pollutant Discharge Elimination System (NPDES) authorization via EPA.

Types of Authorizations Transferred

- Crude oil and natural gas facilities
- Hydrostatic Test Discharges from Oil and gas facilities
- Oil and Gas Extraction Discharges
- Gas Plant Effluent

Produced Wastewater

The water (brine) brought up from the hydrocarbon-bearing strata during the extraction of oil and gas, and can include formation water, injection water, and any chemicals added downhole or during the oil/water separation process.

Managing Produced Wastewater



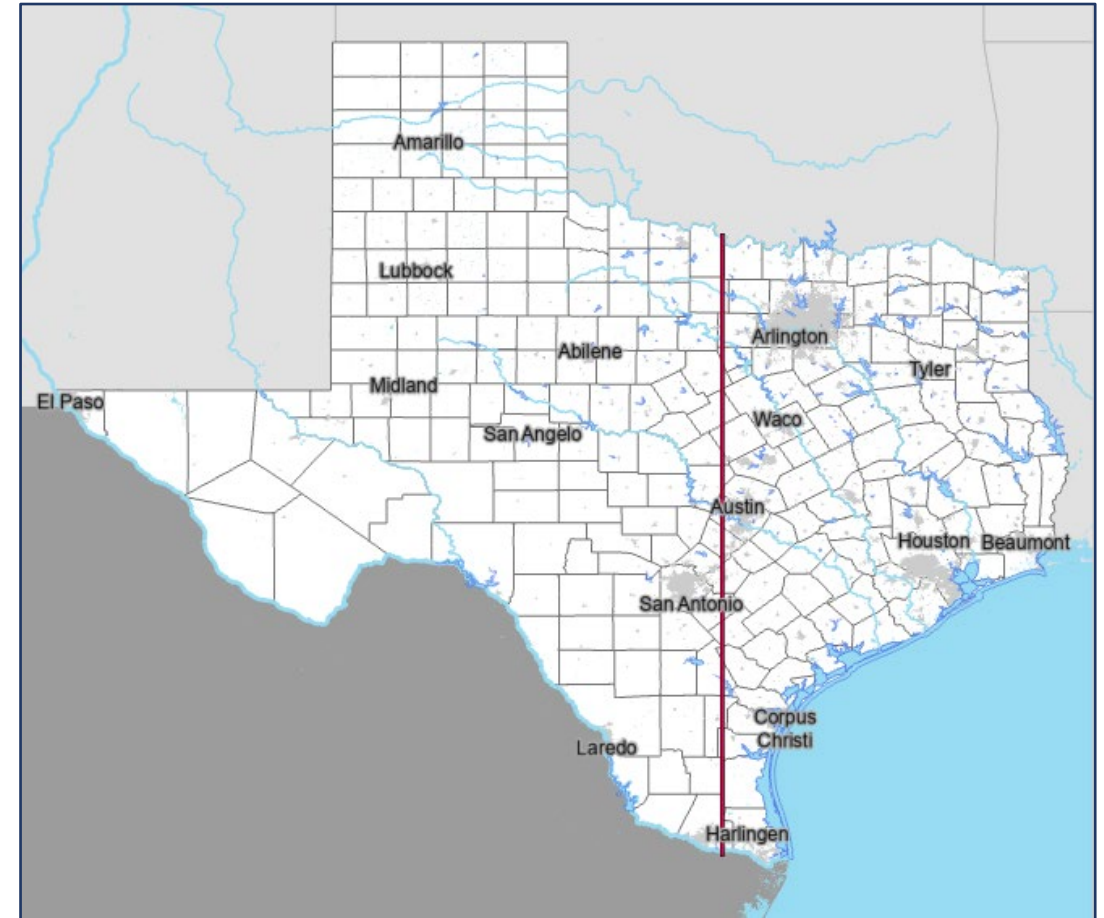
Options

- Reuse within the oil field (common)
- Disposal by underground injection (frequent)
- Treatment and disposal by discharge to surface waters (rare)

Location Considerations

Federal regulations limit discharges of produced water from oil and gas extraction operations based on location.

Federal regulations also prohibit moving effluent generated in one area to another area for discharge under less stringent requirements.



40 CFR Part 435

Code of Federal Regulations (CFR) for discharges of oil and gas wastewater under the oil and gas extraction effluent limitations guidelines (ELGs) and pretreatment standards.

Subpart E – Agricultural and Wildlife Use Subcategory

Applicability: Onshore facilities located in the continental United States and **west of the 98th meridian** for which the produced water has a use in agriculture or wildlife propagation when discharged into navigable waters.

Requires no discharge of wastewater pollutants into navigable waters from any source other than produced water. Produced water discharges have a daily maximum limitation of 35 mg/L for oil and grease by the application of the best practicable control technology currently available (BPT), and must be “of good enough quality” for wildlife or agricultural use.

Applicable EPA Regulations (Location)

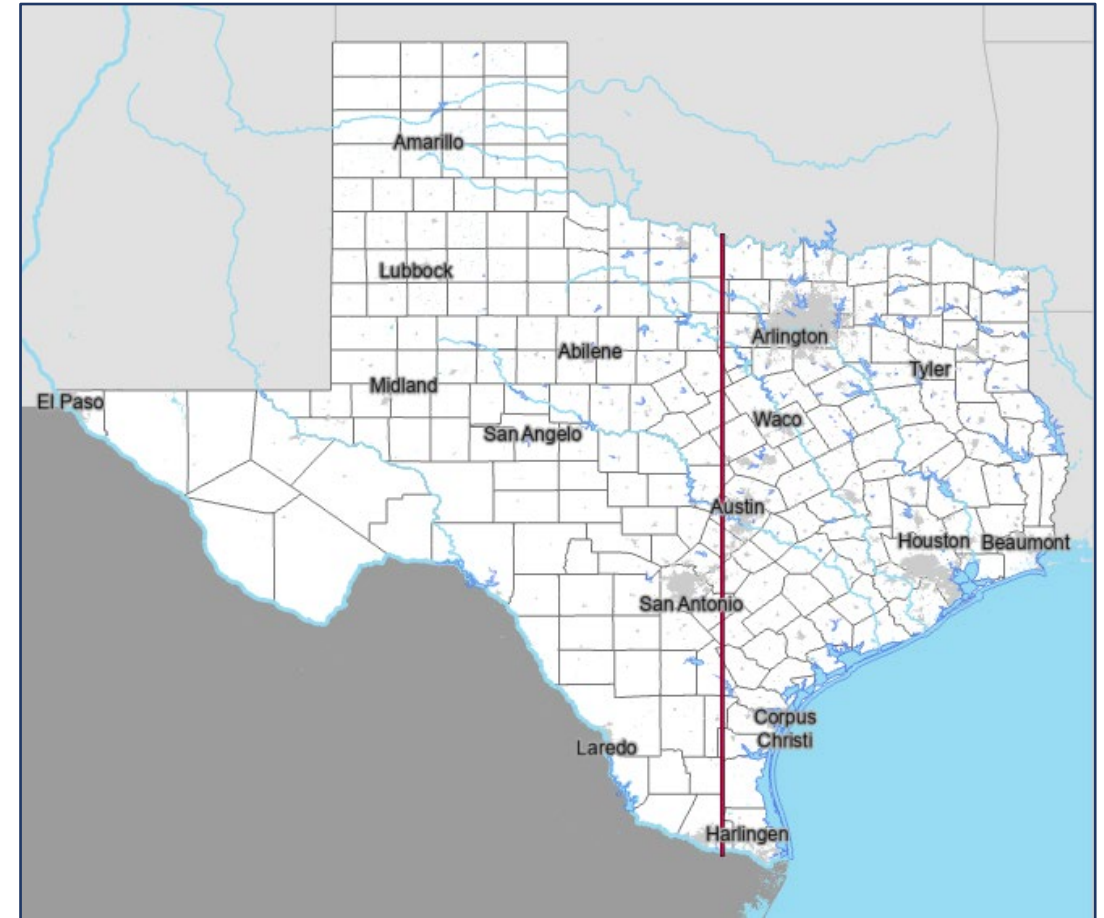
40 CFR Part 435 – Oil & Gas Extraction Point Source Category

- Subpart A – Offshore Subcategory
- Subpart C – Onshore Subcategory
- Subpart D – Coastal Subcategory
- Subpart E – Agricultural & Wildlife Water Use Subcategory
- Subpart F – Stripper Subcategory
- Subpart G – General Provisions

98th Meridian and Produced Wastewater

Discharge of produced wastewater through TPDES permits is limited in Texas.

- WEST of 98th meridian, discharge only allowed in Individual TPDES Permit, if put to beneficial use for agriculture or wildlife purposes.
- EAST of 98th meridian, discharge from inland stripper wells allowed with limitations in TPDES TXG310000 General Permit.



Individual Permits and General Permits

- Individual TPDES permits:
 - Site-specific considerations
 - Requires a detailed permit application
 - Permitting process is approximately one year
- General wastewater permits
 - Typically, statewide*
 - Simplified application process
 - Permitting process is approximately 30 – 60 days

General Permits

- TXG670000 was amended and reissued to authorize hydrostatic test discharges.
- TPDES TXG310000 has been developed to replace expired TXG260000 and TXG330000 and individual RRC authorizations.
- State-only WQG280000 has been developed to replace individual RRC permit authorizations.

Produced Wastewater

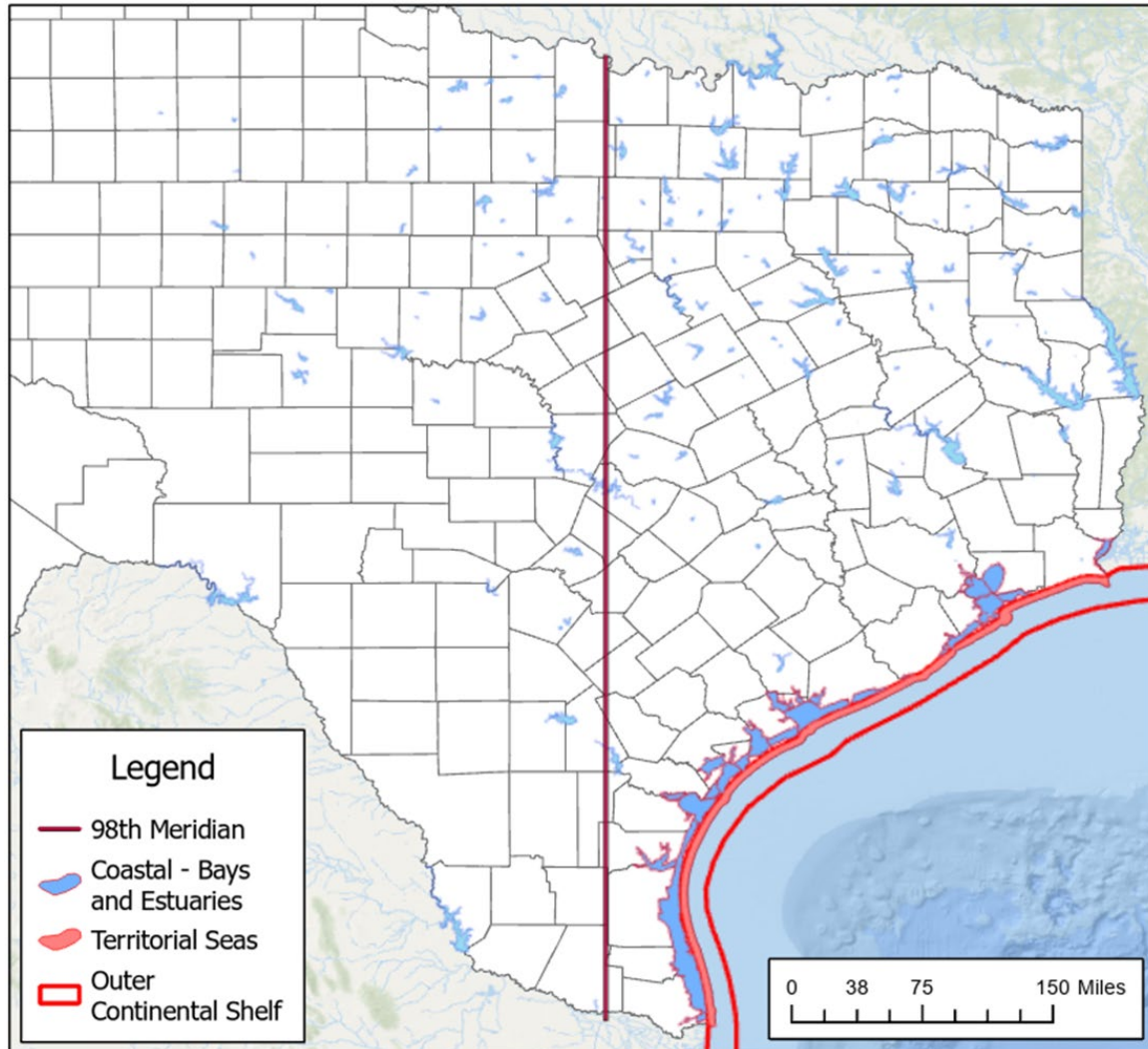
West vs East

West of 98 th Meridian	East of 98 th Meridian
Discharge allowed in an individual permit IF put to beneficial use for agriculture or wildlife purposes.	Discharge prohibited in an individual permit.
	Discharge prohibited from coastal facilities.
	Discharge allowed from stripper wells facilities.
	Discharge allowed from territorial seas facilities.
	Discharge allowed from outer continental shelf facilities.

Federal regulations limit discharges of produced water from oil and gas extraction operations based on location. Federal regulations also prohibit moving effluent generated in one area to another area for discharge under less stringent requirements.

Onshore Stripper Well Facilities

TXG310000



- **Authorize discharge to surface waters**

- produced wastewater
- well treatment (not hydraulic fracturing fluids)
- workover fluids

- **Prohibition of discharge to surface waters**

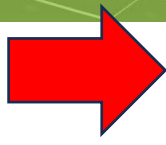
- drilling fluids
- drill cuttings
- produced sand
- dewatering effluent
- formation test fluids
- well completion fluids
- hydrate control fluids
- domestic waste
- sanitary waste
- contaminated miscellaneous discharges and uncontaminated miscellaneous discharges
- contaminated stormwater


Onshore Stripper Well Facility TXG310000

- An oil and gas extraction operation located on land (not in or on water) **east of the 98th meridian** which only includes wells that produce 10 barrels per calendar day or less of crude oil and that are operating both at the maximum feasible rate of production and in accordance with recognized conservation practices.
- A stripper well facility does not include gas wells or wells injecting water for disposal or for enhanced recovery of oil or gas.
- Effluent Limitations and Monitoring Requirements

Parameter	Daily Maximum Limitations	Daily Average Limitations	Sample Type	Monitoring Frequency
Flow	Report, MGD	N/A	Estimate	Once/month
Total Dissolved Solids	3000 mg/L	N/A	Grab	Once/year
Oil & Grease	35 mg/L	25 mg/L	Grab	Once/month
pH	6.0 - 9.0 standard units	N/A	Grab	Once/month
Lethal Whole Effluent Toxicity (WET) limit > 100% <i>Daphnia pulex</i> (24-hour acute LC50 ¹)	≥ 100%	≥ 100%	Grab	Once/six months ²
Lethal WET limit > 100% <i>Pimephales promelas</i> (24-hour acute LC50 ¹)	≥ 100%	≥ 100%	Grab	Once/six months ²





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Available Water Quality General Permits

Industrial Wastewater Discharges: Am I Regulated?

Sewage Sludge and Biosolids: Am I Regulated?

Wastewater Pretreatment

Water Quality Permits for Agriculture

Completing Water Quality Applications

Available Water Quality General Permits

View a list of general permits that authorize the discharge of wastewater and/or stormwater into waters in the state.

The discharge of wastewater and certain types of stormwater into or adjacent to **water in the state** (HTML) must be authorized by the Texas Commission on Environmental Quality (TCEQ). This authorization may come in the form of an individual discharge permit or a general permit. Seeking authorization under a general permit is generally less time-consuming than authorization under an individual permit and usually requires fewer resources.

The status of general permits that are being renewed or amended will be discussed at quarterly **Water Quality Advisory Workgroup** meetings, which are open to the public.



Individual Wastewater Permits

When is an individual industrial permit required?

- Required for facilities that do not meet requirements of a general permit

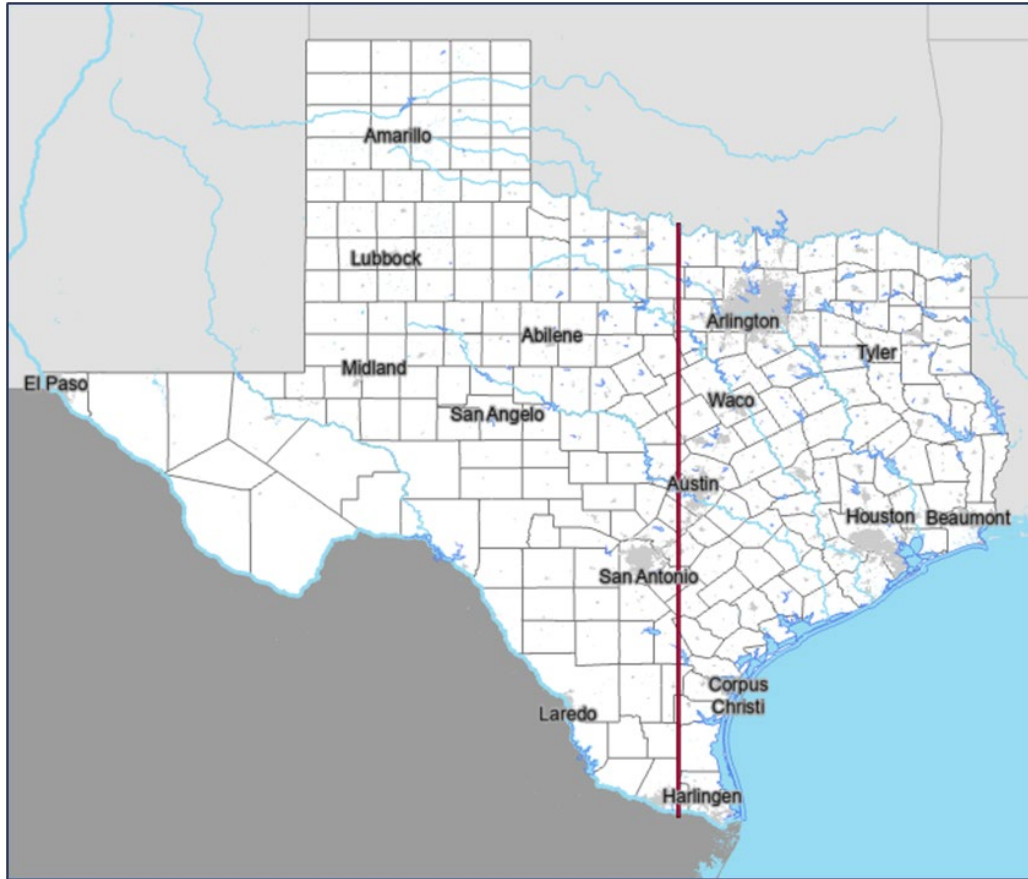
What oil and gas activity may require an individual permit?

- Oil and gas extraction
- Natural gas processing plants
- Stripper wells

Updated Industrial TPDES permit application

- Updated Administrative Report (TCEQ-20893)
- Updated Technical Report (TCEQ-10055)
 - Worksheet 12.0 oil and gas exploration, development and production

West of the 98th Meridian



An individual permit is needed west of the 98th Meridian for many oil and gas activities.

Produced wastewater discharge **prohibited** *except* if put to beneficial use for agriculture or wildlife purposes.



Implementation Procedures (IPs)

*Procedures to Implement the Texas Surface Water Quality Standards
(Regulatory Guidance, RG-194)*

- The [Texas Surface Water Quality Standards](#) are implemented when issuing permits for wastewater discharges to surface waters of the state.
- Surface water quality assessment and impairment status are considered, as provided in the [Texas Integrated Report](#).

Texas Surface Water Quality Standards

30 TAC Chapter 307

2309	Devils River - from a point 0.6 km (0.4 mi) downstream of the confluence of Little Satan Creek in Val Verde County to the confluence of Dry Devils River in Sutton County
2310	Lower Pecos River - from a point 0.7 km (0.4 mi) downstream of the confluence of Painted Canyon in Val Verde County to a point immediately upstream of the confluence of Independence Creek in Crockett/Terrell County
2311	Upper Pecos River - from a point immediately upstream of the confluence of Independence Creek in Crockett/Terrell County to Red Bluff Dam in Loving/Reeves County

Appendix C:

- Classified Segment location descriptions

Appendix A:

- Associated water quality uses
- Numeric criteria to protect uses

Rio Grande Basin Designated Uses and Numeric Criteria												
Segment No.	Rio Grande Basin Segment Names	Recreation Use	Aquatic Life Use	Domestic Water Supply Use	Other Uses	Cl ⁻¹ (mg/L)	SO ₄ ⁻² (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria ¹ #/100 mL	Temperature (degrees F)
2301	Rio Grande Tidal	PCR1	E						5.0	6.5-9.0	35	95
2302	Rio Grande Below Falcon Reservoir	PCR1	H	PS		270	350	880	5.0	6.5-9.0	126	90
2303	International Falcon Reservoir	PCR1	H	PS		200	300	1,000	5.0	6.5-9.0	126	93
2304	Rio Grande Below Amistad Reservoir	PCR1	H	PS		200	300	1,000	5.0	6.5-9.0	126	95
2305	International Amistad Reservoir	PCR1	H	PS		150	270	800	5.0	6.5-9.0	126	88
2306	Rio Grande Above Amistad Reservoir	PCR1	H	PS		200	450	1,400	5.0	6.5-9.0	126	93
2307	Rio Grande Below Riverside Diversion Dam	PCR1	H	PS		300	550	1,500	5.0	6.5-9.0	126	93
2308	Rio Grande Below International Dam	NCR	L			250	450	1,400	3.0	6.5-9.0	605	95
2309	Devils River ²	PCR1	E	PS		50	50	300	6.0	6.5-9.0	126	90
2310	Lower Pecos River	PCR1	H	PS		1,700	1,000	4,000	5.0	6.5-9.0	126	92
2311	Upper Pecos River	PCR1	L			7,000	3,500	15,000	5.0 ³	6.5-9.0	33	92

Status of Permits - April 2024

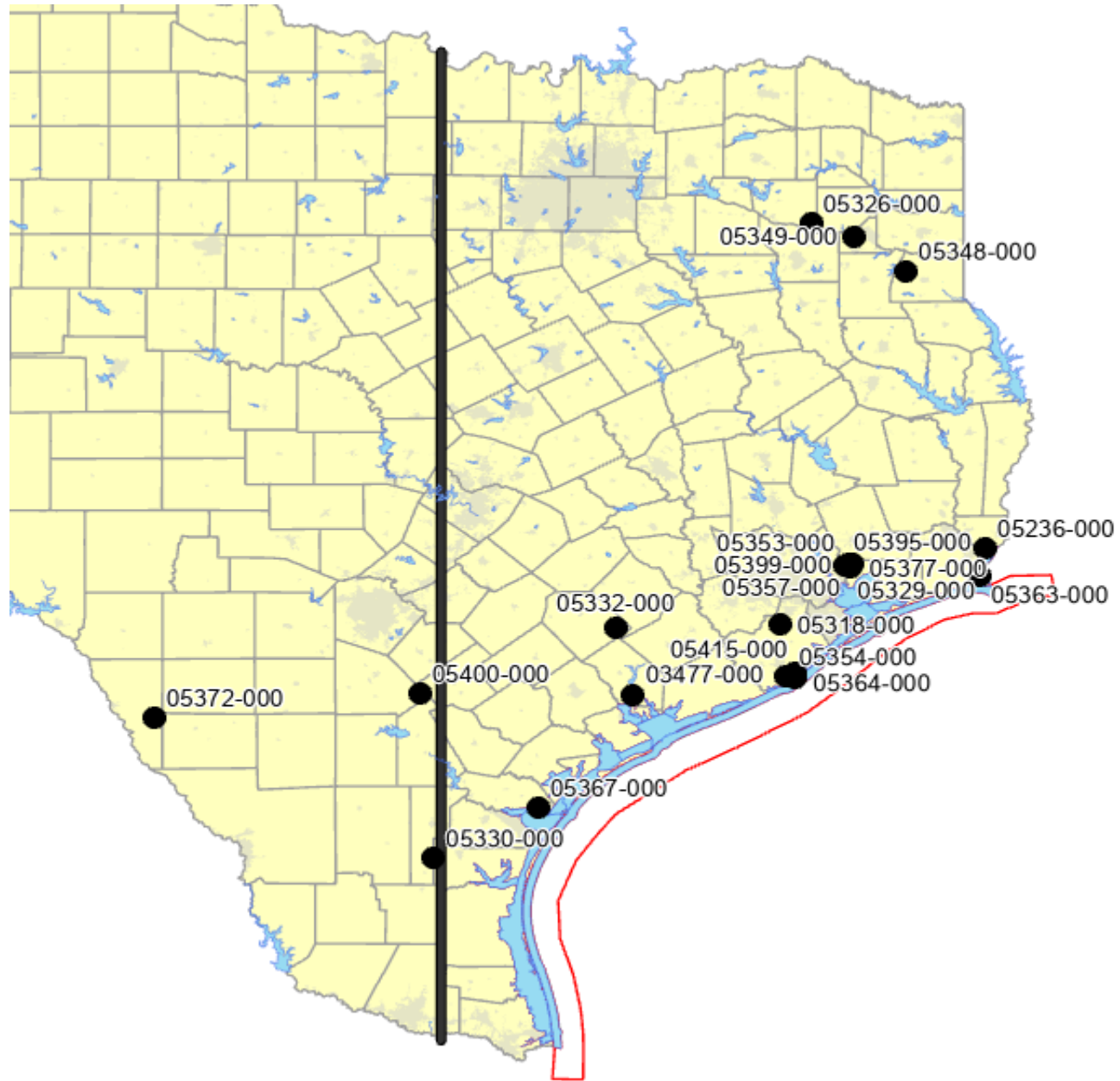
- Transferred Authorizations
 - RRC + Combined EPA/RRC + EPA \approx **140**
 - Includes cancelled and expired permits
- Pending TCEQ Authorizations for Existing Facilities
 - 13
- Issued TCEQ Authorizations for Existing Facilities
 - 12
- TCEQ Applications or Authorizations for New Facilities
 - 2

EPA Review

“EPA will review the first two TPDES draft permits for each of the following SIC Codes that are developed on or after the date of program authorization: 1311, 1321, 1381, 1382, 1389, 4922, and 4925.”

- Subsequent applications may be subject to EPA review.
- Produced water facilities may include SICs 1311, 1381, 1382, 1389

SIC	Facility Type	Pending	Issued
1311	Oil and Gas Exploration	3	1
1321	Natural Gas Liquids	5	10
1381	Drilling Oil and Gas Wells	0	0
1382	Oil and Gas Exploration Services	0	0
1389	Oil and Gas Field Services, Not Elsewhere Classified	0	0
4922	Transmission and Storage of Natural Gas	1	0
4925	Manufacture and Distribution of Gas	1	1
5171	Wholesale of Petroleum Products	3	0
TOTALS		13	12





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