



# Common Environmental Requirements for Regulated Oil and Gas Operations

The Texas Commission on Environmental Quality regulates certain aspects of upstream oil and gas (O&G) operations, also known as “exploration and production” operations. This document discusses some common TCEQ environmental requirements that apply to upstream O&G operations.

It is the operator’s responsibility to ensure that each site complies with statutes, rules, and regulations. This document does not address every applicable statutory and regulatory requirement. You may not rely on it as a defense for failure to comply with applicable requirements.

## Air Regulations

Owners and operators of facilities, as that term is defined in 30 TAC 116.10,<sup>1</sup> must obtain an authorization for air emissions from the facilities. The authorizations vary in requirements and applicability. Facilities may qualify for a permit by rule (PBR) if the following limitations on total actual emissions—as well as other requirements in 30 TAC 106, Subchapter A—are met:

- Less than 250 tons per year (tpy) of carbon monoxide (CO) or nitrogen oxides (NO<sub>x</sub>).
- Less than 25 tpy of volatile organic compounds (VOCs), sulfur dioxide (SO<sub>2</sub>), or particulate matter of less than 10 microns in diameter (PM<sub>10</sub>).
- Less than 25 tpy of any other air contaminant except carbon dioxide, water, nitrogen (N), methane (CH<sub>4</sub>), ethane (C<sub>2</sub>H<sub>6</sub>), hydrogen, or oxygen.

More information—including rules, checklists, forms, special instructions, and additional items that must be submitted—is available at [www.tceq.texas.gov/goto/pbr\\_og](http://www.tceq.texas.gov/goto/pbr_og).

Facilities that cannot qualify for a PBR may be eligible for authorization under an air quality standard permit for oil and gas facilities. Get information on standard permits for the O&G industry online at [www.tceq.texas.gov/goto/nsr\\_og](http://www.tceq.texas.gov/goto/nsr_og).

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<sup>1</sup> In this document, “30 TAC 116,” for instance, is short for “Title 30, Texas Administrative Code, Chapter 116”; “30 TAC 116.10” is short for “Title 30, Texas Administrative Code, Section 116.10.”

Facilities that cannot qualify for a PBR or a standard permit must be authorized with a new source review (NSR) permit. The rules for NSR permits are located in 30 TAC 116, Subchapter B. For additional information about rules pertaining to new source review, visit our Web page, <[www.tceq.texas.gov/goto/nsr\\_permits](http://www.tceq.texas.gov/goto/nsr_permits)>.

Major sources of air emissions are also subject to Title V of the Federal Clean Air Act and must meet operating-permit requirements. For more information about the applicability of these permitting rules, see 30 TAC 122, or visit <[www.tceq.texas.gov/goto/title\\_v\\_oppermits](http://www.tceq.texas.gov/goto/title_v_oppermits)>.

Calculations of VOC emissions are critical in determining appropriate air authorizations. The TCEQ has developed guidance to help the O&G industry quantify certain VOC emissions: <[www.tceq.texas.gov/goto/flash\\_calc](http://www.tceq.texas.gov/goto/flash_calc)>.

When quantifying air emissions, it is important to include formaldehyde from engines. Often overlooked, formaldehyde (CH<sub>2</sub>O) is in fact a VOC. Facilities with more than 3,000 horsepower from all engines at one site may meet the threshold for “major source.” Formaldehyde can be adequately controlled with catalysts.

If you have further questions about air permitting, contact the TCEQ Air Permits Division at 512-239-1250 or by e-mail at <[airperm@tceq.texas.gov](mailto:airperm@tceq.texas.gov)>, or call the TCEQ Small Business and Local Government Assistance Hotline at 800-447-2827.

Owners and operators of facilities may also be subject to emissions inventory reporting as required by 30 TAC 101.10. An emissions inventory must be submitted for a facility that meets one or more of the following conditions:

- Has the potential to emit 100 tpy of any regulated pollutant.
- Is a major facility or stationary source as defined in 30 TAC 116.12 (Nonattainment Review Definition).
- Operates in a nonattainment area and emits 10 tpy or more of VOCs or 25 tpy or more of NO<sub>x</sub>.
- Emits or has the potential to emit 10 tpy of any single hazardous air pollutant (HAP) or 25 tpy of aggregate HAPs.

For more information, visit our Web page <[www.tceq.texas.gov/goto/psei](http://www.tceq.texas.gov/goto/psei)> or call the Emissions Inventory Helpline, 512-239-1773, Monday–Friday, 8 a.m.–5 p.m.

Facilities that have an upset or an unscheduled maintenance, startup, or shutdown (MSS)—otherwise known as an emissions event—must satisfy 30 TAC 101.201. Scheduled MSS activities are subject to 30 TAC 101.211.

Facilities located in a county that is not attaining a national air quality standard may also be subject to state implementation plan (SIP)—related rules and requirements, primarily those of 30 TAC 115 and 117.

For more information about the Texas SIP and nonattainment areas, visit our Web page <[www.tceq.texas.gov/airquality/sip/sipstrategies.html](http://www.tceq.texas.gov/airquality/sip/sipstrategies.html)>.

## Stormwater

The TCEQ does not regulate stormwater discharges associated with activities at upstream O&G sites. However, O&G facilities may need authorization from the U.S. Environmental Protection Agency to discharge stormwater.

The information on the EPA's Web page, <[cfpub.epa.gov/npdes/stormwater/const.cfm?program\\_id=6](http://cfpub.epa.gov/npdes/stormwater/const.cfm?program_id=6)>, can assist you in the process of obtaining appropriate National Pollutant Discharge Elimination System (NPDES) coverage for construction activities. You may also consult a questions-and-answers document that the EPA offers online, at <[www.epa.gov/npdes/pubs/oilandgas\\_epaqa.pdf](http://www.epa.gov/npdes/pubs/oilandgas_epaqa.pdf)>.

For information on obtaining an NPDES permit for industrial stormwater discharges, visit the EPA's Web page, <[cfpub.epa.gov/npdes/stormwater/swcats.cfm](http://cfpub.epa.gov/npdes/stormwater/swcats.cfm)>.

## Water Rights

Except for a few exemptions, **before** initiating any diversion, impoundment, taking, or use of surface water, or construction for those activities, a permit **must** be acquired from the TCEQ. A water right is a right to use state water; the state retains ownership of the water. There are several types of water rights; the most common are permanent water rights.

Other options for using state water include temporary permits authorizing the use of 10 acre-feet or less for up to one calendar year; temporary permits authorizing more than 10 acre-feet of water for up to three years; and term permits for a number of years, usually 10. Temporary permits for less than a year and less than 10 acre-feet are processed by regional TCEQ offices, do not require public notice, and are approved or denied within 30 days. The other listed types of water rights do involve public notice and are processed by the TCEQ's central office in Austin. The related rule is 30 TAC 297.13.

Please note that there are certain areas of the state where it may be difficult to find water available on any basis, due to existing permits and specific conditions in the stream.

You can get additional information on water rights in Texas at <[www.tceq.texas.gov/goto/wr\\_amiregulated](http://www.tceq.texas.gov/goto/wr_amiregulated)>.

## Disposal of Oil and Gas Waste at TCEQ-Authorized Landfills

A TCEQ-authorized landfill may accept waste that is oil and gas waste only if authorized in the facility's waste-acceptance plan or if authorized by the TCEQ on a case-by-case basis, once alternatives for recycling and source reduction have been explored. Waste generated from an oil and gas operation that is being disposed of at a TCEQ-authorized landfill is categorized as "special waste." Recommendations for the management of special wastes associated with the exploration, development, or production of oil and gas are found in *Disposal of Special Wastes Associated with the Development of Oil, Gas, and Geothermal Resources* (TCEQ publication RG-003). The disposal options at each facility may be limited based on the classification of the waste (i.e. Class 1 waste cell). Liquid wastes may require solidification or other processing before disposal in a TCEQ-authorized landfill. Contact your local landfills for specific information on types of waste they are permitted to accept. For more information about special waste disposal, visit <[www.tceq.texas.gov/goto/swdisposal](http://www.tceq.texas.gov/goto/swdisposal)>.

## Reused or Reclaimed Water

Under 30 TAC 210, at <[www.tceq.texas.gov/rules/indxpdf.html#210](http://www.tceq.texas.gov/rules/indxpdf.html#210)>, reclaimed water from municipal or certain industrial sources may be used for fracturing, after which the water must be disposed of by deep well injection according to the rules of the Railroad Commission of Texas (16 TAC 3.9).

## Dam Safety

O&G operations must comply with regulations under the Dam Safety Program (30 TAC 299, <[www.tceq.texas.gov/rules/indxpdf.html#299](http://www.tceq.texas.gov/rules/indxpdf.html#299)>) and could be required to submit an engineering study if they do one or more of the following:

- Dredge the reservoir within 200 ft of the dam.
- Install a utility line or pipeline in the dam or spillways that requires significant excavation in the dam or spillways.
- Construct a road across the dam or spillways or within 200 ft of the dam.
- Drill oil or gas wells, perform horizontal drilling or fracturing, or explore for oil or gas within 500 ft of the dam and spillways.
- Blast within one-half mile of the dam.

## Surface Casing

The 82nd Texas Legislature moved the TCEQ Surface Casing Program to the Railroad Commission of Texas (RRC), and the program is now known as the Groundwater Advisory Unit. The RRC may require a groundwater

protection determination letter for drilling an oil or gas well, Class II disposal well, cathodic protection well, or seismic shot hole. The letter provides an estimated depth to the base of usable-quality groundwater and recommends the depths to be protected with appropriate surface casing in a well or boring or project area. The RRC regulations specify when a groundwater-protection letter must be obtained. You can find information on the RRC's Groundwater Advisory Unit at <[www.rrc.state.tx.us/environmental/environsupport/gau/index.php](http://www.rrc.state.tx.us/environmental/environsupport/gau/index.php)>. You can contact them at 512-463-2741, or by e-mail at <[gau@rrc.state.tx.us](mailto:gau@rrc.state.tx.us)>.