



Typical oil and gas flare

FLARING AT OIL AND NATURAL GAS PRODUCTION SITES

There are thousands of oil and gas wells operating across the state of Texas. These wells are sometimes flared and the sight of these flares can cause concern to citizens that observe them near their residence or while traveling across the state. This brochure explains flare operations at oil and gas sites.



Texas Commission on
Environmental Quality

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WHAT ARE PRODUCTION FLARES?

- The production phase of oil and gas wells happens after well drilling is complete. During the production of oil and natural gas, for varying reasons, gases may not be able to be captured and routed to a pipeline for sale. Flares are used to burn this excess or waste gas at the production sites, which may include equipment such as storage tanks, wellheads and pumpjacks.
- The Texas Commission on Environmental Quality is the state's air permitting authority for these sites and enforces state and federal regulations concerning air emissions from these sites.

WHY ARE FLARES NECESSARY?

- **For safety purposes:** Flares protect employees, residences, and resources that may be located near oil and natural gas sites by safely burning the flammable gases. At sites with high hydrogen sulfide (H₂S) concentrations, flares are used to reduce the hazards associated with H₂S. (As with any radiant source of heat, people other than trained personnel should avoid getting near flares.)
- **For pollution reduction:** State and federal regulations may require a flare to be used in order to reduce site emissions. Flares help reduce the amount of pollution released into the environment by burning and destroying the gas instead of allowing it to vent directly into the atmosphere.

HOW CAN I TELL IF A FLARE IS EFFECTIVELY DESTROYING THE GAS?

While effective combustion cannot be verified with the naked eye, a visible flame is often an indicator that the flare is burning and destroying waste gas.

SHOULD A FLARE ALWAYS HAVE A VISIBLE FLAME?

No, not always.

- Some flares are only used when necessary and therefore may not have a constant visible flame.
- Some flares burn waste gas with a flame that is enclosed or otherwise barely visible.

IS A VISIBLE FLAME REALLY OKAY?

Yes. The TCEQ 2010 Flare Study demonstrated a visible flame on the flare is a good indicator that the flare is burning and destroying waste gas effectively.

WHY DOES A FLARE SMOKE?

Smoke can form when the flare does not have enough oxygen in the combustion zone to prevent smoke. However, the TCEQ 2010 Flare Study demonstrated that a flare is burning waste gas effectively when it has a visible flame, even if the flame occasionally has a small amount of smoke.

SHOULD A FLARE PRODUCE AN ODOR?

A properly working flare would not typically have a noticeable odor. However, a slight odor may occur when gasses with H₂S content are combusted. Excessive odor from a flare may be an indicator of improper operation. Odors may also originate from equipment other than the flare.

SHOULD A FLARE PRODUCE AN AUDIBLE SOUND?

Typically, production site flares operate with a minimal amount of sound. Loud noise may be an indicator of an improperly operating flare, however, pressure or steam assisted flares, which may produce a high decibel or high frequency sound, are used in some locations. The TCEQ does not regulate sound.



This is an example of an air-assisted flare effectively burning and destroying excess waste gas and achieving high efficiency. Notice the flame.

FOR ADDITIONAL INFORMATION

- The Texas Railroad Commission also regulates flaring under Statewide Rule 32. Information relating to SWR 32 can be found at <www.rrc.state.tx.us/about-us/resource-center/faqs/oil-gas-faqs/faq-flaring-regulation/>.
- If you have questions or concerns about a flare in your area, please contact the appropriate TCEQ regional office. Contact information for regional offices is available at <www.tceq.texas.gov/goto/regions>.
- The TCEQ is available 24 hours every day to receive complaints under our jurisdiction. To submit a complaint, either use our online form, which is available at <www.tceq.texas.gov/goto/complaints>, or call us toll-free at 888-777-3186.
- Additional information concerning the role the TCEQ has in regulating oil and natural gas activities can be found at <www.tceq.texas.gov/goto/oilgas>.



*This is an example of a normally-operating oil and gas flare at a distance.
Note that a small amount of smoke may be evident.*

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