

Nevada Natural Gas Flaring and Venting Regulations

The U.S. Department of Energy's Office of Fossil Energy (FE) supports research and development of technologies that can reduce the volume of natural gas (e.g., methane) flared or vented (released) into the atmosphere during crude oil and natural gas exploration, production, processing, transportation, and storage operations. This fact sheet was created by FE to inform stakeholders on state-level production and regulatory activity regarding natural gas flaring and venting. FE's research portfolio includes efforts to reduce methane (and other hydrocarbon) flaring through the application of improved technologies to capture and utilize small volumes of natural gas at remote locations, as well as technologies to reduce (primarily) methane release during midstream gas processing and transportation. Intermittent flaring that occurs as a result of routine well testing, production facility process shutdowns, or facility and pipeline infrastructure maintenance, are normal aspects of safe oil and natural gas production. Increases in domestic oil and natural gas production have resulted in significant infrastructure buildouts, however, natural gas pipeline capacity constraints have led to regional increases in the flaring of associated gas in some unconventional plays (e.g., Permian Basin in Texas and New Mexico and Bakken Shale in North Dakota) in order to enable oil production.

Nevada Producing Plays and Basins

Nevada produces some oil, although total production is small relative to that of major oil states. Most of the oil has come from the Great Basin (Figure 1) in the eastern part of the state, primarily Railroad Valley (Nye and White Pine Counties) and Pine Valley (Elko and Eureka Countiess). According to data from the <u>Nevada Division of Minerals</u>, as of 2017, there were only 11 producing oil fields—2 in Pine Valley and 9 in Railroad Valley. Nevada doesn't have a lot of oil targets because the state's geology has a very high heat flux, so most subsurface hydrocarbons have been cooked away.

The <u>oil that is produced</u> is heavy, and most is sent to Nevada's one refinery, in Nye County, which makes it into asphalt tiles for roofs, asphalt for roads, and some diesel. More recently, the state has seen an increase in leasing in Monitor Valley and the Ruby Mountains, but there are no new plays emerging.

Nevada does not have any significant crude oil reserves, and the state produces only small amounts of crude oil. Nevada also has no significant natural gas reserves and only a limited amount of natural gas production. Almost all of the state's <u>natural gas is produced from oil wells</u>, and production is much less than natural gas consumption in Nevada.



Figure 1: Nevada oil and gas prospective areas outlined with historical well locations (dry and productive) shown in red *Source: American Geosciences Institute*

Nevada Oil and Natural Gas Statistics (EIA)

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|--|------|------|------|------|------|
| Crude Oil Production (Average Barrels/Day) | 915 | 866 | 770 | 759 | 784 | 708 |
| Natural Gas Gross Withdrawals and Production (Average MMcf/Day) | 2.8 | 0.8 | 0.8 | 0.8 | 0.8 | N/A |
| Natural Gas Gross Withdrawals and Production (Vented and Flared) (Mcf/Day) | Gas production is extremely minor; all of the gas is utilized for infield equipment.* | | | | | |
| Natural Gas Gross Withdrawals and Production (Oil Wells) (Mcf/Day) | 8.2 | 8.2 | 11.0 | 8.2 | 8.2 | N/A |
| Natural Gas and Gas Producing Oil Wells | 4 | 5 | 5 | 5 | 6 | N/A |
| | | | | | | |

MMcf - million cubic feet

Mcf - thousand cubic feet

*Information provided by the Nevada Division of Minerals

2017 ranking among 32 U.S. oil and natural gas producing states – Oil: 28 Natural Gas: 31

Nevada Key Regulations Associated with Flaring and Venting

The Nevada Division of Minerals: Oil and Gas, is responsible for permitting, inspecting, and monitoring all oil, gas, and geothermal drilling activities on both public and private lands in Nevada. It also monitors production of oil, gas, and geothermal resources to ensure proper management and conservation. The Division is the state's regulatory authority for all oil and gas wells drilled in Nevada. Operators must provide daily reporting to the Division, which oversees the drilling and subsequent completion of operations; the Division also inspects the wells after completion.

Nevada Revised Statutes (NRS) and Nevada Administrative Codes (NAC) describe Nevada's oil and gas regulations. While Nevada does not have upstream flaring- and venting-specific regulations as related to natural gas, <u>NRS 522.010</u> prohibits waste of oil and gas in the State of Nevada. NRS Section <u>522.039</u> defines waste as, among other things, the inefficient, excessive, or improper use of or unnecessary dissipation of reservoir energy; or the escape of gas into the open air, from a well producing oil or gas, in excess of the amount which is reasonably necessary in the efficient production of the well.

NAC 522.345, Utilization of Gas, does not permit any gas from a gas well to escape into the air without the approval of the Nevada Division of Minerals. The exceptions are when it is required for safety; or when required for initial testing of a well; or when it is needed to lift oil artificially from a pool in cases of operational necessity if the escape is permitted for no more than 5 days within any 30-day period. Operators must report the disposition of gas produced by each gas well each month. Per the NRS 522.040, the Division may require the drilling, casing, and plugging of wells in such a manner as to prevent: the escape of oil or gas out of one stratum into another; the intrusion of water into an oil or gas stratum; the pollution of fresh water supplies by oil, gas, or salt water; and blowouts, cavings, seepages, and fires.

Nevada State Points of Contact

Nevada Commission on Mineral Resources: Division of Minerals -Oil and Gas

Contact the State of Nevada Commission on Mineral Resources for information regarding oil and gas regulations and production data.

Website: <u>http://minerals.nv.gov/</u> Programs/OG/OG/

Email: <u>ndom@minerals.nv.gov</u>

Phone: 775-684-7040

Nevada Division of Environmental Protection: Bureaus of Air Pollution Control and Air Quality Planning

Contact this state agency for more information about permits for emissions producing activities and air quality monitoring.

Website: <u>https://ndep.nv.gov/air</u> Email: jcollier@ndep.nv.gov Phone: 775-687-4670

Visit <u>energy.gov/fe/state-natural-gas-</u> <u>flaring-and-venting-regulations</u> for a digital version of this fact sheet that includes hyperlinks to information sources.

U.S. DEPARTMENT OF ENERGY FOSSII Energy OFFICE OF OIL & NATURAL GAS For more information, visit: fossil.energy.gov

Information current as of May 2019.