VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT

**RULE 74.35 – FLARES**
*(Adopted September 12, 2023)*

A. Purpose and Applicability

The purpose of this rule is to reduce emissions of oxides of nitrogen (NOx) and reactive organic compounds (ROC), and it applies to flares or flare stations. This rule applies to any owners and operators of flares or flare stations where the total rated heat input for the unit is 1 million (MM) BTU per hour or greater.

B. Requirements

1. An owner or operator that installs, replaces, or relocates a flare after December 31, 2023, shall:

a. Not discharge into the atmosphere from the proposed unit emissions in excess of emission limits specified in Table 1- Emission Limits

Table 1 – Emission Limits

| | NOx | CO | ROC |
|---|---|---|---|
| Flare Gas | Pounds/MMBTU | | |
| Digester Gas – Major Source | 0.025 | 0.06 | 0.038 |
| Digester Gas – Minor Source | 0.06 | N/A | N/A |
| Landfill Gas | 0.025 | 0.06 | 0.038 |
| Produced Gas | 0.018 | 0.01 | 0.008 |
| Other Flare Gas | 0.06 | N/A | N/A |
| ROC Liquid Handling: | | | |
| ROC Liquid Holding | 0.25 | 0.37 | N/A |
| ROC Liquid Transfer | Pounds/1,000 gallons loaded | | |
| | 0.034 | 0.05 | N/A |

b. For flares combusting Produced Gas at a facility with estimated annual emissions of five or more tons of any one of the following: ROCs or NOx; or 100 tons per year or more of CO, the owner or operator shall also comply with the following:

1) For a replaced flare or flare station, annual throughput shall be limited to no more than 110 percent of the average annual throughput to that flare or flare station for the three calendar years immediately preceding the submittal of the flare or flare station application based on the annual emissions reported. If not available, the annual throughput shall be limited to no more than 45 MMscf per year.

2) For a new flare that is not replacing an existing flare, the annual throughput shall be limited to no more than 45 MMscf per year.

2. Annual Capacity Thresholds: Owners or operators of a flare or flare station permitted before December 31, 2023, shall determine the annual percent capacity as outlined in Subsection D.2 no later than 30 days after the end of each calendar year. Table 2 lists the annual capacity thresholds for flares or flare stations permitted before December 31, 2023.

Table 2 – Annual Capacity Thresholds

| Flare gas | Threshold |
|---|---|
| Digester gas | 70% |
| Landfill gas | 20% |
| Produced gas | 20% |
| All other open flares | 5% |

3. If the flare or flare station's annual percent capacity exceeds the applicable threshold listed in Table 2 – Annual Capacity Thresholds for two consecutive years, the owner or operator shall submit a Flare Reduction Plan with a Statement of Intent no later than 90 days after the end of the second exceeding calendar year identifying one of the following paths of compliance:

a. Limit throughput for the flare or flare station according to Section B.4; or

b. Replace or modify the flare or flare station according to Subsection B.5 to meet the applicable emission limits in Subsection B.1; or

c. Demonstrate that emission limits in Subsection B.1.a are met for an existing enclosed flare within 60 days of submitting the Flare Reduction Plan and Statement of Intent.

4. Flare Throughput Limit:

An owner or operator of a flare or flare station that has submitted a Statement of Intent to reduce throughput pursuant to Subsection B.3.a shall do the following:

a. Within 6 months, or within 12 months for a publicly owned facility, from the end of the second consecutive calendar year that the annual percent capacity is greater than the applicable threshold listed in Table 2 – Annual Capacity Thresholds, a Notification of Flare Throughput Reduction shall be submitted to the APCD that includes the following:

1) Alternative methods to reduce flare or flare station throughput below thresholds established in Table 2 – Annual Capacity Thresholds; and

2) A timetable to implement and operate the alternative methods.

b. Within 13 months from the end of the second consecutive calendar year that the annual percent capacity is greater than the applicable thresholds listed in Table 2 – Annual Capacity Thresholds, and annually thereafter, until the end of the first year the annual percent capacity is reduced to or below the applicable threshold listed in Table 2 – Annual Capacity Thresholds, a Notification of Increments of Progress shall be submitted to the APCD that includes the following:

1) Actions to implement the throughput reduction completed; and

2) Actions to implement the throughput reduction yet to be completed; and

3) Any changes to the original Flare Reduction Plan, Statement of Intent, or the Notification of Flare Throughput Reduction.

c. Within 36 months from the end of the second consecutive calendar year where the annual percent capacity is greater than the applicable thresholds listed in Table 2 – Annual Capacity Thresholds, the Flare Reduction Plan shall be implemented.

d. Within 30 days after the end of the next calendar year the Flare Reduction Plan was implemented, flare reduction shall be demonstrated to be at or below the applicable threshold listed in Table 2 – Annual Capacity Thresholds.

5. Flare Replacement or Modification:

An owner or operator of a flare or flare station that has submitted a Statement of Intent to replace or modify the flare or flare station pursuant to Subsection B.3.b to meet the emission standards in Subsection B.1.a shall do the following:

a. Within 6 months, or 12 months for a Publicly-Owned Facility, from the end of the second consecutive calendar year that the annual percent capacity is greater than the applicable thresholds listed in Table 2 – Annual Capacity Thresholds., an Authority to Construct application shall be submitted to the APCD; and,

b. Within 18 months after the Authority to Construct has been issued, the flare installation shall be completed and demonstrated compliance in accordance with Section E.

6. An owner or operator of a flare or flare station combusting gases identified in Table 2 – Annual Capacity Thresholds shall submit a Notification of Flare

Inventory and Capacity within 90 days of July 11, 2023, identifying the following information for each flare or flare station:

a. Permit number,
b. Date of flare or flare station installation,
c. Type of gas combusted,
d. Maximum rated capacity in MMSCF or MMBTU per hour,
e. Whether fuel meter is installed
f. Permitted usage limit, if any, and
g. Date of last source test, if applicable.

7. An owner or operator of a flare or flare station subject to this rule shall perform maintenance in accordance with the manufacturer's schedule and specifications. If no manufacture's schedule and specifications are available, use applicable sections of API Standard 537, Third Edition, March 2017, "Flare Details for Petroleum, Petrochemical and Natural Gas Industries," or an alternate APCO approved maintenance schedule and specification.

8. An owner or operator of a flare or flare station installed, relocated, or modified after July 11, 2023, shall display in an accessible location on the flare the following information:

   a. Manufacturer and model number, and
   b. Rated heat input capacity of the flare.

9. After December 31, 2023, any flares that are installed, replaced, or relocated shall be enclosed with sampling ports located in compliance with EPA, CARB, or SCAQMD Method 1 and 2.

10. After December 31, 2023, no person shall operate a flare subject to this rule that produces visible smoke on a continuous basis.

    a. The owner or operator shall conduct visual monthly inspections to monitor for visible emissions pursuant to subsection E.10. and shall maintain a monthly record of the visual inspections, including the inspection date and operator's initials.

11. After December 31, 2023, any flare subject to this rule shall comply with the following requirements:

    a. The flare stack shall be equipped with a continuous pilot light or a functional, operating, pilotless electronic ignition system when operating as a portion of a vapor recovery system or when controlling any gas.

    b. The owner or operator shall test the flare's ignition system or pilot light monthly and shall maintain a monthly record of the flare's pilot light or

ignition system tests and maintenance activities, including the test date and operator's initials.

C. Exemptions

1. The provisions of this rule shall not apply to owners or operators of a flare or flare station:

   a. Rated at less than one (1) million (MM) BTU per hour. Any unit considered exempt due to Subsection C.1.a, shall display the rated heat input capacity in an accessible location on the flare.

   b. Routing only propane or butane or a combination of propane and butane directly into the flame burner.

   c. At a landfill that collects less than 2,000 MMSCF of landfill gas per calendar year and has either ceased accepting waste or is classified by the California Department of Resources Recycling and Recovery as an Inert Waste Disposal Site or an Asbestos Contaminated Waste Disposal Site.

   d. Flares used for well testing, tank degassing, and pipeline degassing operations.

   e. Flares that combust regeneration gas.

2. An owner or operator of a flare or flare station subject to this rule that emits less than 30 pounds of NOx per month shall be exempt from the requirements in Section B provided:

   a. The flare or flare station has a permit that specifies conditions that limit the applicable NOx emissions; and

   b. The flare or flare station operates in compliance with the permit condition.

3. An owner or operator of a flare or flare station subject to this rule that operates 200 hours or less per calendar year or 12-month rolling total, or with an annual throughput limit equivalent to 200 hours at rated heat input capacity or less per year or 12-month rolling total, where emergency flaring is not included in the 200-hour or equivalent limit, shall be exempt from the requirements in Section B provided:

   a. The flare or flare station has a permit that specifies conditions that limits the operating hours or annual throughput; and

   b. The flare or flare station operates in compliance with the permit condition.

4. Gas throughput combusted, and time accrued due to emergency flare events, utility pipeline curtailment, external power failure, operating the pilot light, or source testing pursuant to Section E may be omitted from the calculation of percent capacity.

5. Flares that are permitted to operate only during an emergency are not subject to the requirements of Subsections B.1-B.3.

6. An owner or operator of a flare or flare station that is exempt pursuant to Subsection C.2 or C.3 shall be subject to the requirements of Section B in the event the flare or flare station exceeds the applicable limitation in Subsection C.2 or C.3.

D. Recordkeeping Requirements

1. The owner or operator of a flare or flare station required to comply with Subsection B.2 or C.3 shall install and operate a fuel meter for each gas or vapor, excluding pilot gas, routed to every flare or flare station no later than December 31, 2023, which shall be calibrated annually based on the manufacturer's recommended procedures. The owner or operator shall keep records of the annual calibration and any maintenance activities related to the fuel meter.

2. Beginning January 1, 2024, the owner or operator of a flare or flare station required to comply with Subsection B.2 shall determine the percent capacity of the flare or flare station and maintain records documenting the percent capacity determinations as follows:

   a. Monthly throughput, as measured by the fuel meter, and operating hours shall be tracked and recorded at least once per month, less the exclusions cited in Subsection C.4; and

   b. If determination of throughput capacity is in units of MMBTU/year, the heat input of the flare gas shall be measured and recorded at least once per month in accordance with Subsection E.3 or may be calculated and recorded monthly by measuring the methane concentration of landfill or digester gas using a portable nondispersive infrared detector calibrated per manufacturer's specifications. Heat input measurements are not required for months when flare or flare station is not in use.

   c. Capacity shall be determined using:

      i. Manufacturer designation, if known, or maximum permitted hourly capacity; and
      ii. For flare stations, the combined total capacity of all the flares in the flare station.

d. Annual percent capacity shall be calculated at the end of each calendar year by one of the following methods:

i. By volume:

$$\text{Percent Capacity}_{\text{MMscf}} = \frac{\text{Total Annual Throughput } \left(\frac{mmSCF}{year}\right) / \text{ x}}{\text{Capacity } \left(\frac{mmSCF}{hour}\right)} * 100$$

ii. By heat input:

$$\text{Percent Capacity}_{\text{MMBTU}} = \frac{\text{Total Annual Throughput } \left(\frac{mmBTU}{year}\right) / \text{ x}}{\text{Capacity } \left(\frac{mmBTU}{hour}\right)} * 100$$

Where: x = hours per year operated, less the exclusions cited in Subsection C.4.

e. An owner or operator of the flare or flare station who fails to measure or record the monthly throughput or heat input value in compliance with the above provisions, the percent capacity shall be presumed to be 100% for the months without record.

3. Any person subject to the requirements of subsections B.10 and B.11 shall keep records of the monthly flare inspections.

4. All records required by this rule shall be maintained for a period of five (5) years and made available for inspection by the Air Pollution Control Officer upon request.

5. Effective January 1, 2024, any person operating pursuant to Rule 74.35 shall submit to the District all records generated during each calendar year by December 31st of the following calendar year.

E. Test Methods and Procedures

1. Within 12 months from July 11, 2023, an owner or operator of a flare or flare station complying with Subsection B.1.a shall determine NOx, ROC, and CO emissions by conducting an initial source test and source testing no less than once every two years thereafter. The initial source test shall be conducted to the conditions set forth in the Authority to Construct permit. An open flare shall not be required to conduct source testing.

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2. Compliance with the emission requirements in Subsection B.1.a shall be determined using the following methods:

a. Carbon dioxide and oxygen emissions shall be determined by using EPA Method 3A Oxygen and Carbon Dioxide Concentrations - Instrumental, SCAQMD Method 100.1 Instrumental Analyzer Procedures for Continuous Gaseous Emission Sampling, or CARB Method 100 Procedures for Continuous Gaseous Emission Stack Sampling.

b. Oxides of nitrogen emissions shall be determined by using EPA Method 7 Nitrogen Oxide – Stationary Sources, SCAQMD Method 100.1 Instrumental Analyzer Procedures for Continuous Gaseous Emission Sampling, or CARB Method 100 Procedures for Continuous Gaseous Emission Stack Sampling.

c. Reactive organic compound emissions shall be determined by using SCAQMD Method 25.1 Total Carbon Analysis using GC/NDIR for concentrations greater than 50 ppm, as methane, or Method 25.3 Low Concentration Non-Methane Non-Ethane Organic Compound from Clean Fueled Combustion Sources for concentrations less than 50 ppm, as methane.

d. Carbon monoxide emissions shall be determined by using EPA Method 10, SCAQMD Method 100.1, or CARB Method 100.

3. Determination of HHV and F-factor of gaseous fuels shall be accomplished using ASTM Method D-3588 Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels, D-1945 Standard Test Method for Analysis of Natural Gas by Gas Chromatography, or D-7833 Standard Test Method for Determination of Hydrocarbons and Non-Hydrocarbon Gases in Gaseous Mixtures by Gas Chromatography.

4. For gaseous fuels combusted other than PUC quality natural gas, hydrogen sulfide concentrations shall be determined using SCAQMD Method 307-91 Determination of Sulfur in Gaseous Matrix or ASTM D-5504 Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Chemiluminescence.

5. Source tests of flare exhaust gases shall use sampling ports located in compliance with EPA, CARB, or SCAQMD Method 1 Sample and Velocity Traverses for Stationary Sources and 2 Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube). Safe and easy access to sampling ports shall be provided by the facility for testing events.

6. Source tests shall be averaged over a maximum of 60 minutes of flare operation under normal operation conditions.

7. Source tests shall be conducted in as-found operating conditions.

8. Source test protocols shall be submitted at least 30 days prior to proposed test date for review and approval.

9. If condensate injection is permitted on subject flare or flare station, source testing must be performed with condensate injection on, and the rate must be recorded at 10-minute intervals. The condensate injection rate of the subject flare shall be limited to the rate observed during the most recent compliant source test.

10. The owner or operator shall conduct monthly inspections to monitor for visible emissions from the flare using section 11 of the US EPA Method 22 Visual Determination of Fugitive Emissions From Material Sources and Smoke Emissions From Flares, 40 CFR Part 60 Appendix A. The observation period shall be 15 minutes.

F. Violations

Failure to comply with any provision of this rule shall constitute a violation of this rule.

G. Definitions

1. "Annual Throughput": Volume of gas or vapor in millions of standard cubic feet (MMSCF) that is combusted in a flare or flare station in one calendar year.

2. "Capacity": Maximum volumetric flow rate of gas or vapor that the flare or flare station is rated to process in units of SCF per minute or the maximum heat input rate the flare or flare station is rated to process in units of million British thermal units (MMBTU) per hour.

3. "Capacity Threshold": The percentage of the capacity used to flare gas and is used to determine when an owner or operator of a flare or flare station must take action to reduce NOx emissions and/or reduce the throughput to the flare.

4. "Digester Gas": Gas produced from either mesophilic or thermophilic digestion of biodegradable waste consisting of methane, carbon dioxide, and traces of other contaminant gases.

5. "Emergency": Any situation or a condition arising from a sudden and reasonably unforeseeable and unpreventable event beyond the control of the operator. Examples include, but not limited to, not preventable equipment failure, natural disaster, act of war or terrorism, or external power curtailment, excluding a power curtailment due to an interruptible power service agreement from a utility. A flaring event due to improperly designed equipment, lack of preventative maintenance, careless or improper operation, operator error or willful misconduct does not qualify as an emergency. An emergency situation requires immediate corrective action to restore safe operation. If an emergency event cannot be

rectified in a reasonable amount of time, the use of the flare may be determined to be a planned flaring event. A planned flaring event shall not be considered an emergency.

6. "Enclosed Flare": A flare with the burners shrouded in a stack that is internally insulated to provide wind protection and reduce noise, luminosity, and heat radiation.

7. "External power failure": Utility related power outage, dip, or other power interruption that prevents produced gas from being processed/delivered for sale to a gas utility or third-party purchaser and resulting in unplanned flaring.

8. "Flare": A combustion device that oxidizes combustible gases or vapors, where the combustible gases or vapors being destroyed are routed directly into the burner without energy recovery.

9. "Flare Replacement": Substitution of a flare or flare burner(s).

10. "Flare Station": Two or more flares situated on a single pad and equipped with one common fuel meter.

11. "Heat Input": Higher heating value of the fuel to the flare measured as BTU per hour.

12. "Landfill Gas": Any gas derived through any biological process from the decomposition of waste buried within a waste disposal site.

13. "Major Source": A stationary source which emits or has the potential to emit 25 tons per year or more of NOx or ROC.

    A major source is also any physical change at a stationary source if such a change would constitute a major source by itself.

    Fugitive emissions shall be included when determining if a source is a major source if the source belongs to any of the categories listed in 40 CFR 51.165(a)(1)(iv)(C).

14. "Minor Source": Any source subject to Rule 74.35 that is not a major source.

15. "Modification":
    a. Any physical change to any emissions unit, which would result in an emission increase or for which an application to bank emission reduction credits is submitted to the District, or
    b. Any change in the method of operation of any emissions unit, which would result in an emission increase or for which an application to bank emission reduction credits is submitted to the District, or

c. Any change in hours of operation or throughput, which would result in an emission increase and would necessitate a revision to a permit condition, or for which an application to bank emission reduction credits is submitted to the District.

16. "Open Flare": A flare with a visible open flame.

17. "Other Flare Gas": Any gas combusted other than landfill gas, digester gas, produced gas, or gases generated from organic liquid handling.

18. "Oxides of Nitrogen": Also referred to as "NOx" and includes nitric oxide and nitrogen dioxide.

19. "Percent Capacity": Either the total throughput to the flare or flare station divided by the maximum volumetric capacity of the flare or flare station, or the total heat input to the flare or flare station divided by the maximum heat input of the flare or flare station.

20. "Produced Gas": Organic compounds that are both gaseous at standard temperature and pressure and are associated with the production, gathering, separation or processing of crude oil.

21. "Protocol": A test protocol for determining compliance with emission limits for applicable equipment.

22. "Publicly Owned Facility": A wastewater management facility, solid waste management facility, sewage treatment facility, or landfill facility, if owned and operated by a public agency.

23. "Regeneration Gas": The purge gas from a regenerative adsorption system.

24. "Relocate": To remove an existing source from one facility in the VCAPCD and to install that source on another non-contiguous facility.

25. "ROC": Reactive Organic Compounds defined in Rule 2, Definitions.

26. "ROC Liquid": Any liquid containing reactive organic compounds (ROC).

27. "ROC Liquid Loading": Bulk loading of organic liquids, such as organic liquids in tank trucks, trailer, railroad tank car, or stationary storage tanks.

28. "ROC Liquid Storage": Storage of organic liquids such as organic liquids stored in tank farms and pipeline breakout stations.

29. "Utility Pipeline Curtailment": Limits imposed by the utility or third-party gas purchaser that occur at the pipeline that prevents gas from being injected into the

utility pipeline or pipeline delivering to third party, including monitoring equipment breakdown or third-party facility/equipment breakdown or gas pipeline upgrades and maintenance.