VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT

RULE 54 - SULFUR COMPOUNDS
(Adopted 7/2/68, Revised and Renumbered 10/22/68, Revised 6/24/69, 5/23/72, 7/5/83, 06/14/94, 01/14/14)

A. Applicability

This rule is applicable to any person who discharges sulfur compounds into the atmosphere from any source whatsoever.

B. Requirements

No person shall discharge sulfur compounds which would exist as a liquid or gas at standard conditions, in excess of the concentrations listed below.

1. Sulfur compounds calculated as sulfur dioxide (SO_2) by volume at the point of discharge:

    a. Exceeding 300 ppm by volume, on a dry basis, from any combustion operation, corrected to exhaust gas oxygen content as follows:

        1) For sources subject to Rule 59 Electrical Power Generating Equipment – Oxides of Nitrogen Emissions, corrected to 3% oxygen;

        2) For sources subject to Rule 74.9 Stationary Internal Combustion Engines, corrected to 15% oxygen;

        3) For sources subject to Rule 74.11 Natural Gas-Fired Water Heaters, corrected to 3% oxygen;

        4) For sources subject to Rule 74.11.1 Large Water Heaters and Small Boilers, corrected to 3% oxygen;

        5) For sources subject to Rule 74.15 Boilers, Steam Generators and Process Heaters (5MMBTUs and greater), corrected to 3% oxygen;

        6) For sources subject to Rule 74.15.1 Boilers, Steam Generators and Process Heaters (1 to 5 MMBTUs), corrected to 3% oxygen;

        7) For sources subject to Rule 74.17.1 Municipal Solid Waste Landfills or 40 CFR Part 60 Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills:

            a. Boilers corrected to 3% oxygen;

b. Process heaters corrected to 3% oxygen;
c. Enclosed flares corrected to 3% oxygen;
d. Internal combustion engines corrected to 15% oxygen;
e. Turbines corrected to 15% oxygen;
f. All other sources corrected to 3% oxygen;

8) For sources subject to Rule 74.23 Stationary Gas Turbines, corrected to 15% oxygen;

9) For all other flares, corrected to 15% oxygen;

10) For all other combustion operations, corrected to 15% oxygen; or;

b. Exceeding 500 ppm by volume from any other operation.

2. Sulfur dioxide which results in average ground or sea level concentrations at any point at or beyond the property line in excess of the amounts shown below:

Concentration	Averaging Time
0.25 ppm (Vol)	1 hour
0.04 ppm (Vol)	24 hours

a. Sulfur dioxide which results in ground or sea level concentrations at any point at or beyond the property line such that the 1-hour average design value exceeds 0.075 ppm (Vol).

1) For purposes of Subsection B.2.a of this Rule, the design value is derived from the 3-year average of annual 99th percentile daily maximum 1-hour values. At the District's discretion, compliance with the ground or sea level concentration limit in Subsection B.2.a of this rule may be demonstrated using EPA-approved dispersion models or ambient air monitoring. If the District requires ambient air monitoring, the test method(s) listed in Subsection D.2 of this rule must be employed.

2) To demonstrate compliance using dispersion modeling, the annual 99^{th} percentile daily maximum at each receptor is determined from model results as follows: for each year of meteorological data modeled, select from each day the maximum hourly modeled SO_2 concentration value and sort all these daily maximum hourly values by descending value. The 99^{th} percentile is the 4^{th} highest value for each modeled year. Calculate the average of the 99^{th} percentile values for three consecutive years of modeling data for each receptor. Compliance is demonstrated if this average value is

less than or equal to the design value concentration limit in Subsection B.2.a of this Rule at each receptor.

3) Compliance with the limit in subsection B.2.a may also be demonstrated using EPA-approved screen models. Compliance is demonstrated if the 1-hour SO_2 ground or sea level concentration does not exceed 0.075 ppm (Vol) at or beyond the property line.

4) If ambient air monitoring data is used to demonstrate compliance, the design value must be calculated in accordance with 40 CFR Part 50 Appendix T – Interpretation of the Primary National Ambient Air Quality Standards for Oxides of Sulfur (Sulfur Dioxide).

3. Hydrogen Sulfide (H_2S) exceeding 10 ppm, by volume, at the point of discharge.

4. Hydrogen sulfide (H_2S) which results in average ground or sea level concentrations at any point at or beyond the property line in excess of the amounts shown in the following table:

Concentration	Averaging Time
0.06 ppm	3 minutes
0.03 ppm	1 hour

For purposes of Subsections B.1 and B.2 of this Rule, all sulfur present in gaseous molecular compounds containing oxygen shall be calculated as SO_2. For purposes of Subsections B.3 and B.4 of this Rule, all reduced sulfur compounds present shall be calculated as H_2S.

C. Exemptions

1. Unplanned Flaring: The provisions of Subsections B.1 and B.2 shall not apply to the unplanned burning of gas for emergency or safety concerns provided all the following conditions have been met:

a. The flaring is not the result of an intentional or negligent act or omission on the part of the operator or owner.

b. The flaring is not the result of improper maintenance or improper setting of:

1) High-pressure, high-temperature or high-level shut-in sensors. A proper setting for a high-pressure shut-in sensor is one which is

greater than 90 percent of the maximum allowed by applicable safety regulations.

2) Low-pressure, low-temperature, or low-level shut-in sensors. A proper setting for a low-pressure shut-in sensor is one which is less than 110 percent of the minimum allowed by applicable safety regulations.

c. The flaring event results from operational problems, including but not limited to: emergency blowdowns, process upsets, power outages, and equipment breakdown.

d. Records or logs of each flaring event shall be kept which include the following information:

1) Operator initials, date, time, duration, volume of gas flared.

2) Reason for flaring including description of any equipment involved.

3) If involved in flaring, setting of high-pressure, high-temperature, or high-level shut-in sensor or pressure relief valve, and maximum allowed high-pressure shut-in sensor setting by applicable safety regulations.

4) If involved in flaring, setting of low-pressure, low-temperature, or low-level shut-in sensor, and minimum allowed low-pressure shut-in sensor setting by applicable safety regulations.

5) Description of corrective measure taken to come into compliance with Subsections B.1 and B.2 of this Rule.

6) For flaring events lasting one hour, or longer, description of actions to be taken to prevent the flaring event from recurring.

All records shall be retained for a minimum of two years from the date of each entry and shall be made available to District personnel upon request.

e. The owner or operator immediately undertakes appropriate corrective measures to come into compliance with Subsections B.1 and B.2 of this Rule.

f. The unplanned flaring event shall not exceed 24 hours in duration. If the flaring event exceeds 1 hour in duration, the operator shall:

1) Notify the APCO as soon as reasonably possible, but no later than four hours after its detection by the operator.

2) Within one week after the flaring event, submit a written report to the APCO which contains records from Subsection C.1.d, an estimate of sulfur emissions, and pictures or descriptions of the equipment or controls that failed.

g. Sulfur emissions are minimized.

2. Planned Flaring Events: The provisions of Subsections B.1 and B.2 shall not apply to the planned burning of gas provided all of the following conditions have been met:

a. A notice to flare has been submitted in writing at least 72 hours prior to such work being done, which justifies that such work shall be done. This written notice may be submitted less than 72 hours prior to the event provided that it is justified in writing by the operator for at least one of the following reasons: imminent hazardous situation, considerable economic harm to the company, or excess emissions. This written notice shall contain the following information:

1) Description of the safety, maintenance or production work that requires the proposed flaring event.

2) Expected date and time marking the start and end of the proposed flaring event.

3) Expected gas volume (MCF) and expected sulfur emissions (as pounds of SO_2).

4) Description of steps to be taken or equipment modifications to be made to minimize sulfur emissions.

b. Each operator shall submit a planned flaring management plan to the APCO for approval no later than 180 days after June 14, 1994. This plan shall include at least the following:

1) A description of all measures to be implemented to decrease flare gas volume and reduce sulfur emissions. One measure that shall be included in the Plan involves a method of depressurizing vessels, compressors and pipelines to prevent flaring.

2) A description of all planned operational or maintenance procedures that may cause flaring.

3) A description of each flare system including design features such as type, dimensions, flow or pressure capacity, process flow diagrams, flow monitoring systems, sulfur measurement procedures, and pilot and purge gas features.

4) A description of any sulfur reduction system, including process name, process flow diagrams, design capacity, and emission control efficiency.

5) A description of all measures to be implemented to reduce the number of planned flaring events including changes to maintenance or production schedules or installation of new procedures or equipment.

6) Any other information determined by the APCO that is necessary for evaluating the qualifications of a source for this exemption.

c. Records of the date, time, duration, flare volume and estimated sulfur emissions (as pounds of SO_2) are kept during the entire flaring event. These records shall be retained for a minimum of two years from the date of each entry and shall be made available to District personnel upon request.

d. The District is notified in writing when work is completed. This notice shall include all updated information from Subsection C.2.a.1 through Subsection C.2.a.4.

e. Sulfur emissions are minimized during the operation.

f. No flaring shall occur unless an excess emission fee of $5.00 per pound of sulfur compounds (calculated as SO_2) emitted is paid to the District per calendar year (Section N of Rule 42). For each source, an SO_2 emission is excess when and after the source's flare gas volume allowance has been exceeded during the calendar year. The flare gas volume allowance is 91 percent of the average of the two highest, consecutive, annual flare gas volumes in the applicable six year period as specified below.

These excess emissions shall be determined by the operator and the records of those measurements, including gas flows and calculated SO_2 concentrations, shall be submitted to the District no later than 15 days after the end of each calendar year.

1) For sources operating prior to January 1, 1988, the flare gas volume allowance is calculated from the planned flaring conducted

during the period from January 1, 1988 through December 31, 1993; or

2) For sources constructed after January 1, 1988, the flare gas volume allowance is calculated from the planned flaring conducted during the first six whole calendar years of operation.

D. Test Methods

1. Sulfur compounds at the point of discharge shall be determined by EPA Test Methods 6, 6A, 6C, 8, 15, 16A, 16B, or South Coast AQMD Test Method 307-91 (Determination of Sulfur in a Gaseous Matrix), as appropriate. Hydrogen sulfide emissions from a point of discharge may be determined using a portable monitor provided the instrument is operated and calibrated according to manufacturer's instructions. The portable monitor shall meet the following minimum specifications:

   a. Resolution of 1 ppm H_2S.
   b. Accuracy of +/- 5 ppm at 50 ppm H_2S.
   c. Drift of 1.5 percent of span over 200 days.
   d. Intrinsically safe power source.

2. Ground or sea level concentrations of H_2S and SO_2 shall be determined by Bay Area Air Quality Management District Manual of Procedures, Volume VI, Section 1, Ground Level Monitoring for Hydrogen Sulfide and Sulfur Dioxide (July 20, 1994) with the following amendments:

   a. The wind direction shall be continuously measured and recorded to within 5 degrees of arc, and wind speed shall be continuously measured and recorded to within 0.25 miles per hour (mph) at wind speeds less than 25 mph and with a threshold no greater than 0.2 mph.

   b. The meteorological instruments and siting requirements shall comply with the guidelines in "Quality Assurance Handbook for Air Pollution Measurements Systems, Volume IV, Meteorological Measurements Version 2.0," EPA-454/B-08-002, March 2008.

   c. The gas standards shall be restandardized against the reference wet chemical method at a minimum of once every 12 months, or be standardized using National Institute of Standards and Technology (NIST) standard gases.

E. Definitions

1. "Flaring Event": A flaring event is any flaring that occurs for 10 minutes or longer.

2. "Planned-Flaring Event": A planned-flaring event is one which results from operations identified in the operator's Planned Flaring Management Plan.

3. "Unplanned-Flaring Event": Any flaring event that occurs as a result of an unforeseen process upset or an equipment malfunction or breakdown.