VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT

RULE 71.1 - CRUDE OIL PRODUCTION AND SEPARATION
(Adopted 6/20/78, Revised 3/27/79, 7/10/79, 11/20/79, 7/5/83, 10/4/88, 6/16/92, 7/11/23)

A. Applicability

The provisions of this rule shall apply to equipment used in the production, gathering, storage, processing, and separation of crude oil and natural gas from any petroleum production permit unit prior to custody transfer.

B. Requirements - Storage Tanks

1. No person shall place, hold or store any crude oil in any tank battery unless all storage tanks in the tank battery, including wash tanks, produced water tanks and wastewater separators are equipped with a properly installed, maintained, and operated vapor recovery system. The vapor disposal portion of the vapor recovery system shall consist of one of the following:

a. A system which directs all vapors to a fuel gas system, a sales gas system, or to a flare that combusts reactive organic compounds. If flare is used, the following requirements shall be met:
(1) 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 the vapor recovery system or when controlling produced gas.
(2) 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.
~~a.~~(3) The owner or operator shall conduct visual monthly inspections to monitor for visible emissions pursuant to Subsection F.4.

b. Any other system which processes all vapors and has a reactive organic compound vapor destruction or removal efficiency of at least ~~90~~ 95 percent by weight. The system shall be tested pursuant to Subsection F.1 of this rule upon installation and not less than once every 60 months to demonstrate compliance with the vapor destruction or removal efficiency requirement.

2. Any tank exempt from Section B.1 of this rule pursuant to the provisions of Section D.1. below shall comply with the following provisions:

a. All tanks shall be equipped with a solid roof and shall be maintained in good condition.

b. All tanks shall be equipped with sealed hatches and pressure-vacuum relief valves. Each pressure-vacuum relief valve shall be set to at least 90 percent of the maximum allowable pressure and vacuum rating for the tank.

3. Portable tanks used to store or hold crude oil shall be equipped with both a closed cover that is impermeable to ROC vapors and a pressure-vacuum valve set by the manufacturer or according to the manufacturer's recommendations. A portable tank shall be defined as a tank that can be moved from one location to another by attachment to a motor vehicle without having to be dismantled.

C. Requirements - Produced Gas

1. The emissions of produced gas shall be controlled at all times using a properly maintained and operated system that directs all produced gas, except gas used in a tank battery vapor recovery system, to one of the following:

a. A fuel or sales gas system

b. A flare that combusts reactive organic compounds and complies with the following requirements:

(1) 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 the vapor recovery system or when controlling produced gas.

(2) 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.

~~b.~~(3) The owner or operator shall conduct visual monthly inspections to monitor for visible emissions pursuant to Subsection F.4.

c. A device with an ROC destruction or removal efficiency of at least ~~90~~ 95 percent by weight. The system shall be tested pursuant to Subsection F.1 of this rule upon installation and not less than once every 60 months to demonstrate compliance with the vapor destruction or removal efficiency requirement.

2. The provisions of Subsection C.1. shall not apply to the following:

a. Wells which are undergoing routine maintenance, or

b. Exploratory wells (during the first two weeks of production) if the composition of the produced gas is unknown (i.e., new reservoir) and there are no existing gas handling systems within 150 feet of the well.

D. Exemptions

1. The provisions of Subsection B.1 of this rule shall not apply to any of the following:

   a. Any tank battery, including wash tanks, produced water tanks and wastewater separators, installed prior to June 20, 1978, for the purpose of processing crude oil having a modified Reid vapor pressure at the initial storage tank entry point of less than 0.5 psia.

   b. Any temporary tank battery, including wash tanks, produced water tanks and wastewater separators, holding or storing crude oil from any new crude oil production well, for a period of up to ninety days following initial production from that well.

   c. Any portable tank if all the following conditions are met:

      (1) The tank is not used to increase the storage capacity of an existing tank battery.

      (2) The tank is not located within 150 feet of a tank battery that is subject to the provisions of Subsection B.1.

      (3) The tank is being used during maintenance activity at a tank battery or well and has not held or stored crude oil for more than 60 days.

2. The provisions of Subsection B.1 of this rule shall not apply during maintenance operations on vapor recovery systems or tank batteries, including wash tanks, produced water tanks and wastewater separators, if the Air Pollution Control District is notified ~~verbally~~ at least 24 hours prior to the maintenance operation and if the maintenance operation will take no more than 24 hours to complete.

3. The provisions of Subsections B.1 and B.2 of this rule shall not apply to any tank if the ROC content of the liquid entering the tank is less than 5 milligrams per liter.

4. The provisions of Subsections B.1 and B.2 of this rule shall not apply to any tank when it has been demonstrated to the satisfaction of the Air Pollution Control Officer on or before July 11, 2023 that the maximum degree of achievable emission reduction has already taken place. Each demonstration shall include a cost evaluation conducted in accordance with "BACT Cost Effectiveness Procedures and Screening Levels for Costs" adopted by the Air Pollution Control Board on December 20, 1988.

E. Recordkeeping Requirements

1. Any person wishing to operate pursuant to the provisions of Section D.1.a of this rule shall keep records to substantiate the applicability of that subsection. Such records shall include, for any crude oil, the modified Reid vapor pressure in psi absolute at the initial storage tank entry point. Records shall be made available to the Air Pollution Control Officer upon request and shall be maintained for a period of ~~four~~ five (45) years.

2. Any person claiming an exemption pursuant to Subsection D.3 of this rule may be required to justify the exemption every twelve (12) months. Such justification shall be submitted to the Air Pollution Control Officer, in writing, upon request and shall include the results of an independent laboratory analysis.

3. Any person claiming an exemption pursuant to Subsection D.1.c for any portable tank shall maintain records indicating the number of days the tank has stored or held crude oil during the maintenance operation.

4. Any person demonstrating compliance with subsections B.1.b and/or C.1.c shall keep records of test results to substantiate the compliance with the vapor destruction or removal efficiency requirement. Records shall be maintained for a period of five (5) years and made available for inspection by the Air Pollution Control Officer upon request.

5. Any person subject to the requirements of subsections B.1.a(3) and/or C.1.b(3) shall keep records of the monthly flare inspections. Records shall be maintained for a period of five (5) years and made available for inspection by the Air Pollution Control Officer upon request.

6. All records required by this rule shall be submitted to the Air Pollution Control Officer no later than December 31st of the next calendar year.

F. Test Methods

1. The vapor removal efficiency in Subsections B.1. and C.1. shall be determined as follows:

   a. Measurement of ROC vapor concentration shall be determined by EPA Method 25 Gaseous Nonmethane Organic Emissions, EPA Method 25A Gaseous Organic Concentration- Flame Ionization, or EPA Method 18 Volatile Organic Compounds- Gas Chromatography.

   b. Measurement of vapor flow through pipes shall be determined by EPA Method 2A Volume Meters, EPA Method 2B Exhaust Volume Flow Rate, or EPA Method 2D Rate Meters.

2. The modified Reid vapor pressure shall be determined using Test Method for

Vapor Pressure for Petroleum Products, ASTM D 323-82 conducted at the sample crude oil temperature equal to the temperature of the crude oil at the storage tank entry point.

3. The ROC content of crude oil in milligrams per liter shall be determined by EPA Method 8015D Nonhalogenated Organics Using GC/FID. Samples will be analyzed using purge and trap (EPA Method 5030C Purge and Trap for Aqueous Samples), and stock standards will be prepared from gasoline. Sampling shall occur at the entry point of the device.

~~3.~~4. 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.