

State of California  
AIR RESOURCES BOARD

Resolution 82-12

February 24, 1982

WHEREAS, the Air Resources Board ("Board") and the Environmental Protection Agency have established health-based ambient air quality standards for oxidant and ozone, respectively, and for particulate matter, and the Board has established standards for visibility reducing particles, and these standards are frequently violated in several of the State's air basins;

WHEREAS, Health and Safety Code Sections 39003, 39500, 39602, and 41500 authorize the Board to coordinate, encourage, and review efforts to attain and maintain state and national ambient air quality standards;

WHEREAS, Health and Safety Code Sections 39600 and 39605 authorize the Board to act as necessary to execute the powers and duties granted to and imposed upon the Board and to assist the air pollution control districts;

WHEREAS, the California Environmental Quality Act and Board regulations require that the Board not take any action which would have adverse environmental impacts unless the Board responds to all significant environmental issues raised and adopts all feasible measures to mitigate such impacts;

WHEREAS, the Board has held a duly noticed public meeting on this matter and heard and considered the comments presented by representatives of the Board, districts, affected industries, and other interested persons and agencies; and

WHEREAS, the Board finds:

That emissions of photochemically reactive organic compounds from vents of steam drive oil production wells contribute to concentrations of oxidant and ozone and of photochemically generated particulate matter in excess of state and national ambient air quality standards in several of the State's air basins;

That emissions of photochemically reactive organic compounds from steam drive oil production wells can be reduced from an average of 220 pounds per day per well to an average of 4.5 pounds per day per well by condensing such emissions in heat exchangers such as shell and tube condensers or fin fan coolers and by combusting the exit gases from the heat exchangers in a steam generator or a flare;

That the technology to control emissions from vents of steam drive oil production wells is reasonably available and cost-effective; and

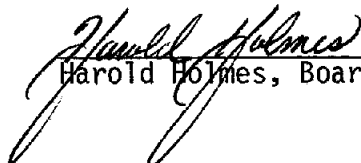
That no significant adverse environmental impacts associated with the proposed Suggested Control Measure have been identified and no potentially significant adverse environmental effects are likely to result from the adoption and implementation of the proposed Suggested Control Measure.

NOW, THEREFORE, BE IT RESOLVED that the Board endorses the Suggested Control Measure for Emissions of Photochemically Reactive Organic Compounds from Vents of Steam Drive Oil Production Wells as set forth in Attachment A to this Resolution.

BE IT FURTHER RESOLVED that the Executive Officer direct the Board staff to study the appropriateness of inclusion of ethane in definitions of photochemically reactive organic compounds and to report back to the Board on the results of this study.

BE IT FURTHER RESOLVED that the Executive Officer shall forward the Suggested Control Measure to districts for consideration and adoption in regulatory form to the extent necessary to provide for the attainment and maintenance of the ambient air quality standards.

I certify that the above is  
a true and correct copy of  
Resolution 82-12, as adopted  
by the Air Resources Board.

  
Harold Holmes, Board Secretary

Attachment A

SUGGESTED CONTROL MEASURE FOR EMISSIONS OF PHOTOCHEMICALLY REACTIVE  
ORGANIC COMPOUNDS FROM VENTS OF STEAM DRIVE OIL PRODUCTION WELLS

I. DEFINITIONS

- A. Operate: To perform any activity with or on any crude oil production well including, but not limited to pumping, venting, maintaining or repairing.
- B. Photochemically Reactive Organic Compound (PROC): Any compound containing at least one atom of carbon, except methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, and carbonates.
- C. Production Zone: A formation or group of formations of oil bearing material beneath the surface of the ground through which steam can travel from a steam injection well to an oil production well.
- D. Steam Drive Well: Any crude oil production well that is completed in the same production zone as is a steam injection well, that is either operated by the person injecting the steam or responding to steam injection under a contractual agreement with the operator of the steam injection well, and that is within a:
  - 1. 250 foot radius of the steam injection well, if the steam injection well is within a 2-1/2 acre or smaller production well pattern; or
  - 2. 350 foot radius of the steam injection well, if the steam injection well is within a production well pattern of 5 acres or smaller but larger than 2-1/2 acres; or

3. 500 foot radius of the steam injection well, if the steam injection well is within a production well pattern larger than five acres; or
4. 1,000 foot radius of the steam injection well, if the production well is not in one of the above specified patterns.

E. Steam Injection Well: A well into which steam is injected to increase the production of oil from adjacent wells.

## II. EMISSION CONTROL REQUIREMENTS\*

- A. No person shall operate a steam drive well unless the PROC emissions from the well are reduced by at least 98 percent by weight from the uncontrolled level or to 4.5 pounds per day or less, or
- B. If steam drive wells are connected to a vapor control system, PROC emissions shall be reduced by an average of at least 98 percent from the uncontrolled level or shall average no more than 4.5 pounds per day per connected well.

## III. COMPLIANCE

- A. The operator of any new steam drive well, or any non-steam-drive well converted to a steam drive well, which commences steam drive operations on or after the date of adoption of this rule shall comply with the provisions of this rule not later than 12 months after steam injection commences.
- B. The operator of any oil production well operated as a steam drive well prior to the date of adoption of this rule shall be in full compliance

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\*Nothing in this measure is intended to transfer responsibility for emission violations to persons performing repair or maintenance work under contract to the owner or operator of a steam drive well.

with the provisions of this rule within 25 months from the date of adoption of the rule. The operator of any steam drive well who chooses to control the emissions from the well by installing a vapor control system shall comply with the following schedule of increments of progress:

1. Within 9 months from the date of adoption of the rule, submit to the Air Pollution Control Officer a final control plan which describes, as a minimum, the steps, including construction schedules, that will be taken to achieve compliance with the provisions of this rule and an application for authority to construct the proposed vapor control system.
  2. Within 12 months from the date of adoption of the rule, provide documentation to the Air Pollution Control Officer that contracts or purchase orders for the control system and component parts have been issued.
  3. Within 15 months from the date of adoption of the rule, initiate on-site construction of the vapor control system.
  4. Within 23 months from the date of adoption of this rule, complete on-site construction of the vapor control system.
  5. Within 25 months from the date of adoption of the rule, demonstrate full compliance with the provisions of this rule.
- C. Compliance testing shall be performed annually by the operator of vapor control systems used to control emissions from steam drive wells. The testing shall be performed during June, July, August, or September of each year.

- D. The Air Pollution Control Officer may waive the requirement in paragraph III(C) for a vapor control system which combusts the organic vapors leaving the system.
- E. The Air Pollution Control Officer shall waive the requirement in paragraph III(C) for the vapor control system which does not emit PROC.

#### IV. EXEMPTIONS

- A. During the times that any steam drive well is being serviced, as determined by criteria issued by the Air Pollution Control Officer, the well shall be exempt from the requirements of this rule.
- B. Any steam drive well defined by paragraph I(D)(4) is exempt from the provisions of this rule if the operator shows to the satisfaction of the Air Pollution Control Officer that the temperature at the wellhead of produced oil and water has been increased by less than thirty Fahrenheit degrees above the temperature at the wellhead of oil and water that was produced before steam injection was commenced.
- C. Any steam drive well defined by paragraph I(D)(4) into which steam has been injected is exempt from the provisions of this rule for six months from the most recent date of such steam injection, provided that the amount of steam expressed as water injected during the most recent injection is more than 2,000 barrels and that:
  - 1. Steam is injected more frequently than once every 45 days; or

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Response to Significant Environmental Issues

Item: Public Meeting to Consider a Suggested Control Measure for Emissions of Photochemically Reactive Organic Compounds from Vents of Steam Drive Oil Production Wells

Public Hearing Date: February 24, 1982

Response Date: February 24, 1982

Issuing Authority: Air Resources Board

Comments: No comments were received identifying any significant environmental issues pertaining to this item. The staff report identified no adverse environmental effects.

Response: N/A

CERTIFIED:

  
Board Secretary

Date:

03/08/82