



Compliance and Enforcement Division  
June 25, 2007  
**Compliance Advisory**

***This Advisory is provided to inform you about activities of the District that may affect your operation. It is intended to assist you in your effort to achieve and maintain compliance with applicable air pollution rules and regulations.***

**ATTENTION: PETROLEUM REFINERIES**

**SUBJECT: REQUIRED CONTENT FOR CAUSAL ANALYSIS REPORTS**

On July 20, 2005, the Bay Area Air Quality Management District (BAAQMD) Board of Directors adopted Regulation 12, Rule 12: Flares at Petroleum Refineries (Reg. 12-12), to reduce emissions from flares at petroleum refineries by minimizing the frequency and magnitude of flaring. This rule was amended on April 5, 2006 to incorporate additional reporting requirements for sulfur dioxide.

As of that date, petroleum refineries are required to submit causal analysis reports for reportable flaring events where ...*"more than 500,000 standard cubic feet per calendar day of vent gas is flared or where sulfur dioxide (SO<sub>2</sub>) emissions are greater than 500 pounds per day"*... (Reg. 12-12-208)

**Determination and Reporting of Cause (Reg. 12-12-406)**

Reg. 12-12-406 requires petroleum refineries to submit a causal analysis report within 60 days following the end of the month in which a reportable flaring event occurs. **For any reportable flaring event that occurs after June 30, 2007**, each causal analysis report must contain the following information:

1. Date on which the report was drafted (12-12-406).
2. The refinery name and site number (12-12-406).
3. The assigned refinery contact name and phone number (12-12-406).
4. Identification of the flare(s) at which the reportable event occurred by reviewing water seal monitoring data to determine which seals were breached during the event (12-12-406).
5. The flaring event duration for each affected flare (12-12-406.1):
  - a) The date(s) of the event
  - b) The start and end time of the event
  - c) The net duration of event (in hours and minutes)
6. A brief description of the flaring event (12-12-406.1) (e.g., "flaring due to turnaround maintenance").
7. A process flow diagram showing the equipment and process units that were the primary cause of the event (12-12-406.1).
8. The total volume of vent gas flared (MMSCF) throughout the event (12-12-406.5).

Over ➡

9. The emissions associated with the flaring event per calendar day (12-12-406.5)
  - a) # methane emitted
  - b) # non-methane hydrocarbon emitted
  - c) # SO<sub>2</sub> emitted

Also provide the assumptions used to calculate emissions associated with the flaring event if they are different from those used for reporting under Regulation 12, Rule 11.

10. A statement as to whether or not the gas was scrubbed to eliminate or reduce any entrained compounds and a list of the compounds for which the scrubbing was performed (12-12-406.1).
11. The primary cause of the flaring event including a detailed description of the cause and all contributing factors. Also identify the upstream process units that contributed vent gas flow to the flare header and provide other flow instrumentation data where available (12-12-406.1).
12. Describe all immediate corrective actions to stabilize the flaring event, and to reduce or eliminate emissions (flare gas recovered or stored to minimize flaring during the event). If a decision was made not to store or recover flare gas, explain why (12-12-406.1).
13. Was the flaring the result of an *emergency* (See definition in Reg. 12-12-201)? If so, was the flaring necessary to prevent an accident, hazard or release to the atmosphere (12-12-406.4)?
14. If not the result of an emergency and necessary to prevent an accident, hazard or release to the atmosphere, was the flaring consistent with an approved FMP? If yes, provide a citation to the facility's FMP and any explanation necessary to understand the basis for this determination (12-12-406.3).
15. If the flaring was due to a regulatory mandate to vent to a flare, why couldn't the gas be recovered, treated, and used as fuel gas (12-12-406.4)?
16. Identify and describe in detail each prevention measure (PM) considered to minimize flaring from the type of reportable flaring event that occurred (12-12-406.2):
  - a) State whether the PM is feasible (and will be implemented), or not feasible
  - b) Explain why the PM is not feasible, if applicable

**If you have any further needs, please contact the District at the following numbers:**

- For compliance assistance, call (415) 749-4999, the Compliance Counselor Hotline.
- For questions about this advisory contact Douglas Tolar, Air Quality Specialist at (415) 749-5118 or [dtolar@baaqmd.gov](mailto:dtolar@baaqmd.gov).

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