

Regulation 12 Rule 12 Reportable Flaring Event Causal Analysis Report

1. **Report Date:** March 10, 2023
2. **Refinery Name and Site Number:** Martinez Refining Company - BAAQMD Site # A0011
3. **Refinery Contact and Phone Number:** Rick Shih (925) 229-6596
4. **Flare Identification:** LOP flare S-1471
5. **Flaring Event Duration:**
 - a. **Date:** November 24, 2022
 - b. **Start Time:** 12:52 am
 - c. **Stop Time:** 6:47 pm
 - d. **Total Duration of Event:** Intermittent for approximately 18 hours
6. **Brief Description of Flaring Events:**

On November 21, 2022, [REDACTED]

During the efforts to restore normal operations on November 24, 2022, the LOP flare had more than 500 lb of SO₂ emissions in a 24-hour period
7. **Process Flow Diagram:** see attached process flow diagram
8. **Volume of Gas Flared:** 294,106 SCF
9. **Total Emissions due to flaring based on Regulation 12 Rule 11 Methodology:**
 - a. 99 lbs of methane
 - b. 366 lbs of non-methane hydrocarbons
 - c. 943 lbs of sulfur dioxide
10. **Was the Gas Scrubbed?** The vent gas that went to the flare was not scrubbed.
11. **Primary Cause of Flaring Event including Detailed Description of the Cause and Contributing Factors:**

[REDACTED]

[REDACTED]

[REDACTED] and then eventually restore normal operations. However, this process to restore normal operations can, and did in fact, take multiple days. As part of the initial phase of this effort, operators safely stabilized and balanced the system so that flaring stopped later that evening. Please see the separate report for more information regarding the initial November 21, 2022 event.

[REDACTED]

[REDACTED] MRC was able to appropriately line up the equipment and flaring stopped.

12. Immediate Corrective Actions Taken:

Efforts were taken to stabilize the unit [REDACTED], including working to appropriately line up the equipment, and eventually restore normal operations. As part of this effort, operators were trying to verify lineups and get material lined [REDACTED]. See above for more information.

13. Was the Flaring the Result of an Emergency as defined by Section 12-12-201?

Yes. Regulation 12 Rule 12 defines “Emergency” as “a condition at a petroleum refinery beyond the reasonable control of the owner or operator requiring immediate corrective action to restore normal and safe operation that is caused by a sudden, infrequent and not reasonably preventable equipment failure, natural disaster, act of war or terrorism or external power curtailment, excluding power curtailment due to an interruptible power service agreement from a utility.” The CCU was in hot standby due to an emergency where the expander train tripped off when an actuator controller failed on November 21, 2023. The initial event that occurred on November 24 involved [REDACTED]

[REDACTED]. The resulting flaring was beyond the reasonable control of the facility.

14. Was the Flaring Consistent with an Approved FMP?

Yes, the flaring was consistent with MRC approved Flare Management Plan (FMP). As stated on page 3-1 of the FMP, MRC believes the key to flare minimization is careful planning to avoid flaring coupled with evaluation of any flaring events that occur and incorporation of lessons learned back into the planning process to further reduce flaring. As part of the FMP, MRC developed procedures to implement this process. As stated on page 3-1 of the FMP, “When these procedures are followed, any flaring is consistent with the FMP.” Operations followed procedure C(F)-20 – Unanticipated Flaring. This procedure addresses flare events caused by process upsets or unplanned events.

15. Was the Flaring due to a Regulatory Mandate to Vent to a Flare?

The flaring was not due to a regulatory mandate to vent to the flare.

16. Prevention Measures Considered to Minimize Flaring from this Type of Flaring Event

By the third quarter of 2023, evaluate options [REDACTED].

MRC will further evaluate [REDACTED] and will complete the evaluation by the end of the fourth quarter 2023.



[This figure has been redacted from the Public Version as it contains Business Confidential Information]



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