



3485 Pacheco Boulevard
Martinez, CA 94553

VIA EMAIL

March 7, 2024

Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105

Subject: November 29, 2023 Reportable FXG, LOP, OPCEN HC Flaring Event Incident Report -Public Version

To Whom It May Concern:

Pursuant to Regulation 12 Rule 12 Section 406, Martinez Refining Company submits the following information regarding a reportable flaring event as defined in Regulation 12-12-208 that occurred on November 29, 2023. The attached report discusses the cause of the flaring event and any prevention measures considered to prevent recurrence of the event. This report was originally submitted to the Air District on January 29, 2024 as 3 separate flare reports. At the request of the Air District, this report is being resubmitted as a combined report for 3 flares.

Should you have any questions or concerns regarding this report, please contact me at (925) 313-5387 or at william.hewlett@pbfenergy.com.

Sincerely,

William Hewlett

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Attachment

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Regulation 12 Rule 12 Reportable Flaring Event Causal Analysis Report

1. **Report Date:** March 7, 2024
2. **Refinery Name and Site Number:** Martinez Refining Company - BAAQMD Site # A0011
3. **Refinery Contact and Phone Number:** William Hewlett (925) 313-5387
4. **Flare Identification:** [REDACTED] Flare S-1771, [REDACTED] Flare S-1471, and [REDACTED] Flare S-1772

5. **Flaring Event Duration:**

- [REDACTED] **Flaring:**
 - a. **Date:** November 29, 2023 – December 2, 2023
 - i. **Start Time:** November 29, 2023, 16:54
 - ii. **End Time:** December 2, 2023, 03:54
 - iii. **Total Duration of Event:** Approximately 59 Hours
- [REDACTED] **Flaring:**
 - a. **Date:** November 29, 2023
 - iv. **Start Time:** 16:25
 - v. **End Time:** 21:23
 - vi. **Total Duration of Event:** Approximately 4 Hours and 58 Minutes
- [REDACTED] **Flaring:**
 - a. **Date:** November 29, 2023
 - vii. **Start Time:** 16:30
 - viii. **End Time:** 19:15
 - ix. **Total Duration of Event:** Approximately 2 Hours and 45 Minutes

6. **Brief Description of Flaring Event:**

On November 29, 2023, at approximately 4:18 PM, the [REDACTED] Air Compressor tripped. This sudden trip incident resulted in a loss of instrument air at the refinery which led to multiple unit upsets at the site. As a result of this refinery wide emergency, flaring at the [REDACTED] flare, [REDACTED] flare, and [REDACTED] flare was necessary to restore normal and safe operation of the process.

7. **Process Flow Diagram:** see attached process flow diagrams

8. **Volume of Gas Flared:**

- [REDACTED] **Flare Total Volume of Gas Flared:** 76,103,696 SCF
 - a. **Volume flared on 11/29/2023:** 18,828,926 SCF
 - b. **Volume flared on 11/30/2023:** 39,509,871 SCF
 - c. **Volume flared on 12/01/2023:** 17,681,373 SCF
 - d. **Volume flared on 12/02/2023:** 83,526 SCF
- [REDACTED] **Flare Total Volume of Gas Flared:** 2,926,341 SCF
- [REDACTED] **Flare Total Volume of Gas Flared:** 1,849,987 SCF

9. **Total Emissions due to flaring based on Regulation 12 Rule 11 Methodology**

- [REDACTED] **Flare Total Emissions**
 - a) 5,603 lbs of methane
 - b) 214 lbs of non-methane hydrocarbons
 - c) 412 lbs of sulfur dioxide
- [REDACTED] **Flare Emissions by Date**
 - 11/29/2023
 - a. 1,396 lbs of methane
 - b. 72 lbs of non-methane hydrocarbons
 - c. 122 lbs of sulfur dioxide
 - 11/30/2023
 - a. 2,999 lbs of methane
 - b. 98 lbs of non-methane hydrocarbons
 - c. 200 lbs of sulfur dioxide
 - 12/01/2023
 - a. 1,199 lbs of methane
 - b. 44 lbs of non-methane hydrocarbons
 - c. 90 lbs of sulfur dioxide
 - 12/02/2023
 - a. 9 lbs of methane
 - b. 0 lbs of non-methane hydrocarbons
 - c. 0 lbs of sulfur dioxide
- [REDACTED] **Flare Total Emissions**
 - a) 1,035 lbs of methane
 - b) 1,037 lbs of non-methane hydrocarbons
 - c) 1,639 lbs of sulfur dioxide
- [REDACTED] **Flare Total Emissions**
 - a) 878 lbs of methane
 - b) 107 lbs of non-methane hydrocarbons
 - c) 0 lbs of sulfur dioxide

10. **Was the Gas Scrubbed?** The vent gas that went to the [REDACTED] flare for this flaring event was scrubbed with water by the [REDACTED] Scrubber and [REDACTED] Cooler during the entire flaring event. In addition, the vent gas that went to the [REDACTED] flare was also scrubbed with [REDACTED] in the [REDACTED] Absorber. The vent gas that went to the [REDACTED] and [REDACTED] flare was not scrubbed.

11. **Primary Cause of Flaring Event including Detailed Description of the Cause and Contributing Factors:**

The [REDACTED] Air Compressor tripped as a result a mechanical failure of an emergency trip pin. The failure of this trip pin resulted in the sudden closure of the steam flow plug valve of the turbine which shut down the [REDACTED] Air Compressor. This resulted in brief loss of instrument air pressure across the site which caused multiple process units to temporarily shut down. Flaring was necessary to bring the refinery back to normal operations after multiple process units were shut down and brought back online.

12. **Immediate Corrective Actions Taken:**

Operations worked to immediately re-start available compressors to stabilize the instrument air header pressure in an effort to begin re-starting process units impacted by the emergency process upset. The failed pin was replaced with an OEM replacement, and the impacted compressor unit was reassembled, calibrated, and tested.

13. Was the Flaring the Result of an Emergency?

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.” Flaring was a result of a sudden mechanical failure of an emergency trip pin. This mechanical failure caused a brief loss of instrument air pressure emergency event at the refinery. This was an emergency event caused by a “sudden, infrequent and not reasonably preventable equipment failure.”

14. Was the Flaring Consistent with an Approved FMP?

Yes, the flaring was consistent with Martinez Refining Company approved Flare Management Plan (FMP). As stated on page 3-1 of the FMP, Martinez Refining Company 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, Martinez Refining Company 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

To help eliminate future flaring events from this type of mechanical failure, the following action items will be completed:

- a) Contact vendor to verify if there is a more reliable/robust trip pin design.

Figure 1: [REDACTED] Flare Process Flow Diagram

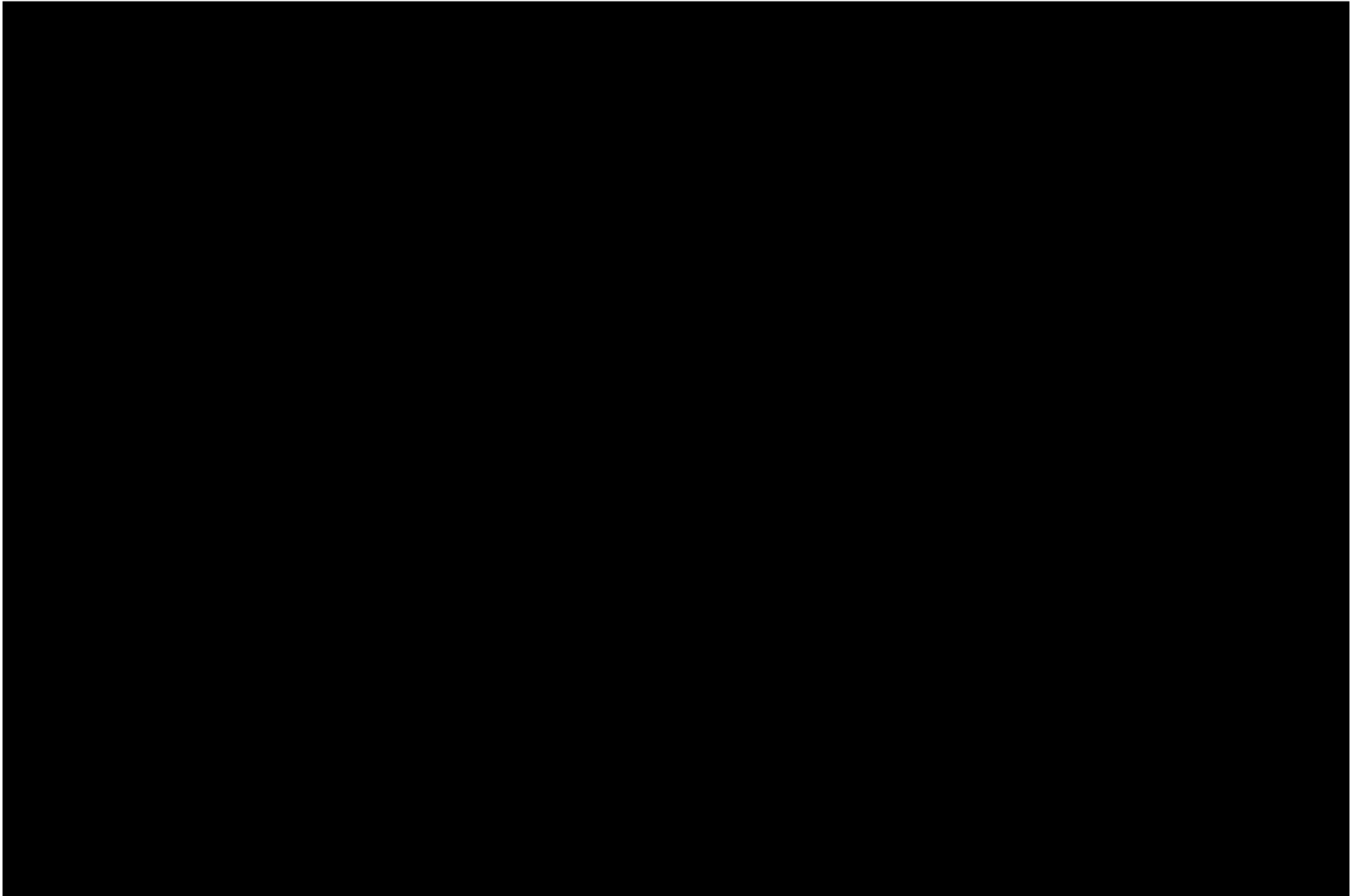


Figure 2: [REDACTED] Flare Process Flow Diagram

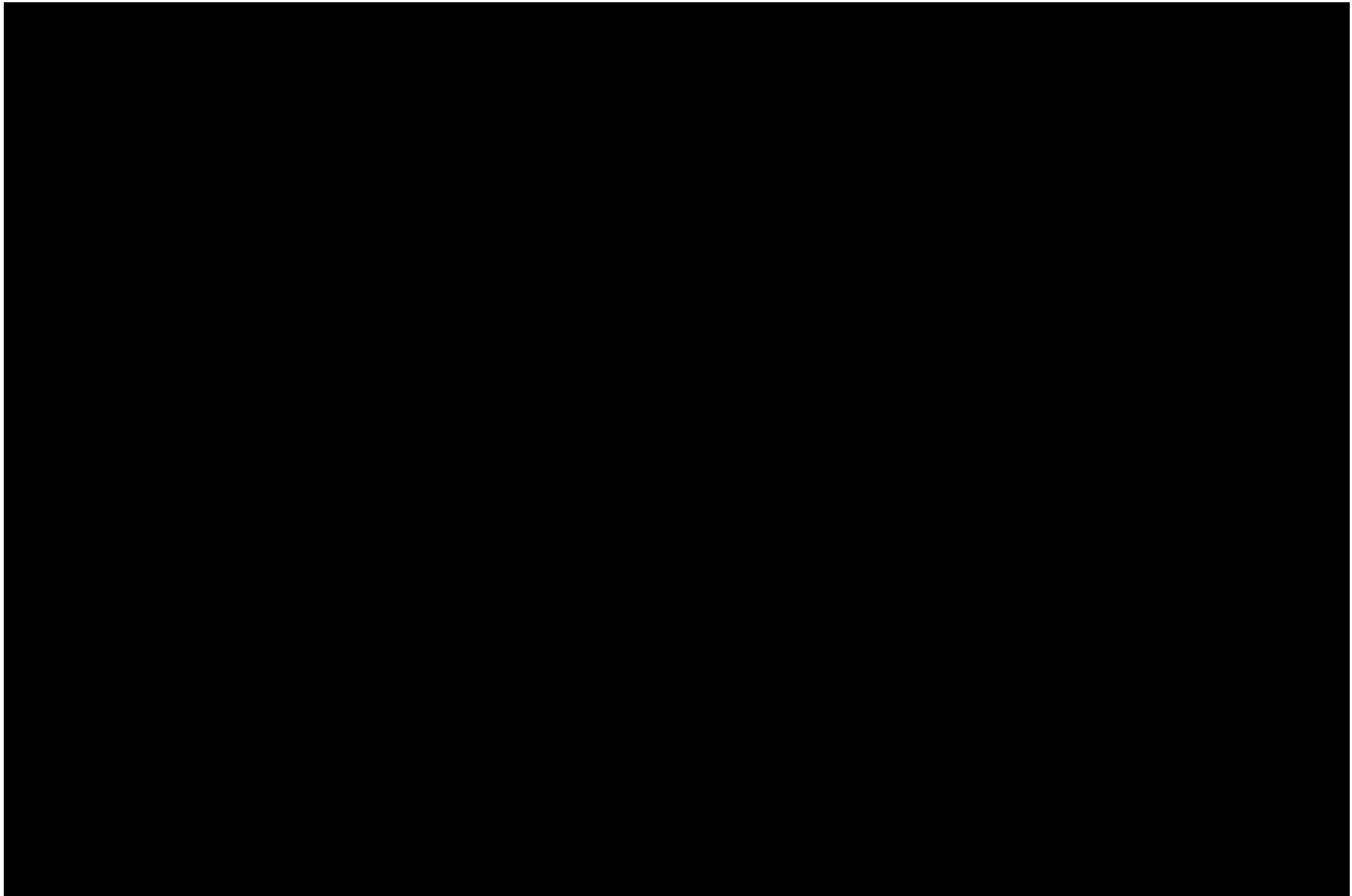


Figure 3: [REDACTED] Flare Process Flow Diagram

