Tesoro Refining & Marketing Company LLC
A subsidiary of Marathon Petroleum Corporation
Martinez Refinery
150 Solano Way
Martinez, CA 94553-1487

April 20, 2020

USPS CERTIFIED MAIL: 7019 2280 0000 9282 7054

Mr. Jeff Gove
Director of Enforcement
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105

SUBJECT: **February 7, 2020 Flare Event Causal Analysis**
Tesoro Refining and Marketing Company, subsidiary of Marathon Petroleum, Martinez Refinery Plant #B2758

Dear Mr. Gove:

Pursuant to Regulation 12, Rule 12, and the Compliance Advisory dated June 25, 2007 from the BAAQMD Compliance and Enforcement Division, the flare causal analysis for the February 7, 2020 event is attached. This report is being submitted under both the requirements specified in Regulation 12-12-406, for a reportable event when flaring occurs within a facility, and the Required Contents for Causal Analysis Reports, outlined in the Compliance Advisory.

This event triggered a team incident investigation. The investigation is complete, and the following report includes recommended corrective actions. If you have any questions or wish to discuss any of these items further, please feel free to call Sharon Lim at (925) 335-3467.

Sincerely,

David Chetkowski
Advanced HES Professional

SYL/kds
SYL
Attachments

cc: Miguel Zepeda, BAAQMD Air Quality Inspector (via e-mail)

FLARE CAUSAL ANALYSIS REPORT

Flaring Associated with #3 HDS Compressor Trip
February 7, 2020

Public Copy

1) **Date on which the report was drafted.**
   April 20, 2020

2) **The refinery name and site number.**
   Marathon's Tesoro Martinez Refinery, Plant # B2758

3) **The assigned refinery contact name and phone number.**
   Sharon Lim, Senior Engineer, (925) 335-3467

4) **Identification of the flare(s) at which the reportable event occurred by reviewing the water seal monitoring data to determine which seals were breached during the event.**
   Steam Flares, **S944 & S945;** Coker Flare, **S1517;** East Air Flare, **S854;** West Air Flare, **S1012;** [redacted]

5) **The flaring event duration for each affected flare:**
   a. **The date(s) of the event**
      February 7, 2020
   b. **The start and end time of the event**
      Starting time 8:21 AM
      Ending time 10:40 AM
   c. **The net duration of the event (in hours and minutes)**
      2 hours and 19 minutes [redacted]

6) **A brief description of the flaring event**

   #3 HDS recycle compressor tripped after loss of lube oil.

7) **A process flow diagram showing the equipment and process units that were the primary cause of the event.**
   [redacted]

8) **The total volume of vent gas flared (MMSCF) throughout the event.**
   Based on the Regulation 12 Rule 11 Flare Monitoring report for February 2020, the corrected net gas flow to the flare was 0.60 MMSCF.

9) **The emissions associated with the flaring event per calendar day:**
   a. # methane emitted = 183 lbs
   b. # non-methane hydrocarbon emitted = 35 lbs
   c. # SO_2 emitted = 470 lbs

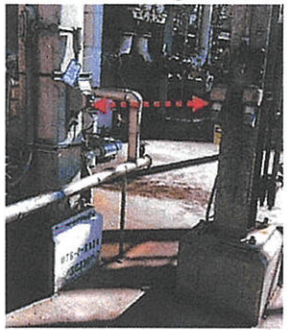
   Also provide the assumptions used to calculate emissions associated with the flaring event if they are different from those used for reporting under Regulation 12 Rule 11.

The emissions associated with this flaring event were based on the methodology used for reporting under Regulation 12 Rule 11 and reviewing the minute by minute averages for SO2.

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 scrubbing was performed.

[redacted] The vented gas which was flared was not scrubbed in the refinery fuel gas treating system.

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.



On February 7, 2020, a mechanic accidentally bumped the "off" switch on lube oil pump with his radio harness as he was checking out the location to land a crane. Immediately following the realization that the pump shutdown, he pushed the start button to run the lube oil pump. The swing in lube oil pressure tripped the turbine on the recycle gas compressor. This resulted in the #3 HDS unit shutdown.

The Mechanic immediately reported it to Operations to inform them of what happened. Operations quickly started the second flare gas recovery compressor. This decreased the flaring.

The root cause was the On/Off Switch design on the lube oil pump. The design has a "button well" which is designed to prevent the button from being depressed from a large surface area type of object. Pointed items such as fingers, radio antennas, wrenches or pens would not be blocked from depressing the "off" button if an individual is passing close to the switch.

12) Describe all immediate corrective actions to stabilize the flaring event, and to reduce or eliminate emissions (flared gas recovered or stored to minimize flaring during the event). If a decision was made not to store or recover flare gas, explain why.

Operations quickly started the second flare gas recovery compressor.

13) Was the flaring the result of an *emergency*? If so, was the flaring necessary to prevent an accident, hazard or release to the atmosphere?
Flaring was not the result of an "emergency" as defined by the BAAQMD.

"Emergency: 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 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."

14) If not the result of an emergency and necessary to prevent an accident, hazard or release to 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.
The Flare Management Minimization Plan Section 3.4, Prevention Measures, Subsection 3.4.1 discusses flaring activity due to startups and shutdowns (page 25).

15) If the flaring was due to a regulatory mandate, to vent to the flare, why couldn't the gas be recovered, treated, and used as fuel gas?
Not applicable.

16) Identify and describe in detail each preventative measure (PM) considered to minimize the flaring from the type of reportable flaring event that occurred:

a. **State whether the PM is feasible (and will be implemented), or not feasible**

	Corrective Actions	Anticipated Date of Completion
1	Immediate taping off of area around on/off switch for remainder of job to prevent reoccurrence.	Complete
2	Write notification to upgrade switch to an enclosed switch	Complete
3	Survey other switches that need to be upgraded or relocated	Complete

b. **Explain why the PM is not feasible, if applicable**

Not applicable.