



U. S. Chemical Safety and Hazard Investigation Board

RECOMMENDATION STATUS CHANGE

SUMMARY

Report:	Marathon Martinez Renewable Fuels Fire
Recommendation Number:	2024-01-I-CA-R2 (R2) 2024-01-I-CA-R3 (R3) 2024-01-I-CA-R4 (R4) 2024-01-I-CA-R5 (R5) 2024-01-I-CA-R6 (R6) 2024-01-I-CA-R7 (R7)
Date Issued:	March 13, 2025
Recipient:	Marathon Martinez Renewables/Marathon Petroleum Corporation
New Status:	R2: Open – Acceptable Response or Alternate Response R3: Open – Acceptable Response or Alternate Response R4: Open – Acceptable Response or Alternate Response R5: Open – Acceptable Response or Alternate Response R6: Open – Acceptable Response or Alternate Response R7: Open – Acceptable Response or Alternate Response
Date of Status Change:	July 25, 2025

Recommendation Text:

Recommendations Issued to MMR:

2024-01-I-CA-R2

For the fired heater involved in the incident, after Marathon Petroleum Corporation's "Process Heater Not-to-Exceed (NTE) Limits and Alarms" standard is updated according to 2024-01-I-CA-R5, implement tube metal temperature alarming consistent with corporate guidance to alert operators when safe operating limits are exceeded and to specify predetermined response actions, such as shutting down the fired heater remotely. The predetermined response actions must include actions that specify when to stop troubleshooting and remove personnel from the vicinity of the fired heater.

2024-01-I-CA-R3

Implement changes to improve Walk the Line performance at the Martinez facility by ensuring that the facility's practices are consistent with tools in the AFPM Safety Portal and guidance in Marathon Petroleum Corporation's refining reference document titled Operations Excellence. At a minimum:

- a. *Require that operator field walkdowns ensure that valves are correctly aligned before all unit startup activities from planned or unplanned shutdowns, such as those due to non-normal operations, emergencies, turnarounds, and major maintenance;*
- b. *Improve policies and practices for communications among and between shifts to ensure that operators understand abnormal line-ups in their units; and*
- c. *Reinforce Walk the Line concepts, including the expectation for only trained operators to control valve line-ups at their units, through training for all levels of management in the Operations department.*

2024-01-I-CA-R4

Complete a comprehensive gap assessment of the Martinez facility against Marathon Petroleum Corporation policies. At a minimum, address the following policies:

- a. *Operating Limits;*
- b. *Process Hazard Analysis; and*
- c. *PSM/RMP Refining Operating Procedures.*

Develop and implement action items to effectively address findings from the assessment.

Recommendations Issued to MPC:

2024-01-I-CA-R5

Update the corporate “Process Heater Not-to-Exceed (NTE) Limits and Alarms” standard with tube metal temperature alarming guidance to alert operators when safe operating limits are exceeded and to specify predetermined response actions, such as shutting down the fired heater remotely. The predetermined response actions must include actions that specify when to stop troubleshooting and remove personnel from the vicinity of the fired heater.

2024-01-I-CA-R6

Update the corporate “Heater Application Standard” with the following requirements:

- a. *Requirements for protecting fired heaters from low process flow where process piping diverges downstream of a flow meter. Requirements may include achieving proof of flow to the heater through valve position indicators and interlocks on branch connections downstream of flow meters to prevent backflow, reverse flow, or other diverted flow scenarios that could defeat the safety instrumented system; and*
- b. *Engineering safeguard requirements to detect and prevent afterburning in fired heaters. The safeguards may include the use of instrumentation such as combustibles measurements, flame detectors, and/or thermocouples that measure tube metal, flue gas, and process fluid temperatures. The safeguards shall be capable of being monitored from the control room.*

2024-01-I-CA-R7

Confirm the results of the Martinez facility's comprehensive gap assessment required in 2024-01-I-CA-R4. Upon completion, conduct an Operations Excellence full assessment on the Martinez facility. Develop and implement action items to effectively address findings from the assessment.

Board Status Change Decision:

A. Rationale for Recommendation

On November 19, 2023, a fire erupted when a metal tube within a fired heater ruptured during the initial startup of a renewable diesel hydroprocessing unit at the Marathon Martinez Renewables facility in Martinez, California. A lack of process flow due to valve misalignment combined with afterburning due to poor combustion conditions caused overheating of the tubes leading to the rupture and fire.

One employee received third-degree burns over 80 percent of his body during the incident and remained in critical condition for a period of over six months. Marathon Petroleum Corporation estimated that over 200,000 pounds of renewable diesel and 2,200 pounds of hydrogen were released. The incident resulted in approximately \$350 million in damage.

The U.S. Chemical Safety and Hazard Investigation Board (CSB) investigated the incident and found several safety issues including those associated with safe operating limits, worker proximity to fired heaters, low flow through fired heaters, burner operation, valve misalignment, and corporate oversight. As a result of these findings, the CSB issued four recommendations to Marathon Martinez Renewables (MMR) and three recommendations to Marathon Petroleum Corporation (MPC). This status change summary addresses CSB Recommendation Nos. 2024-01-I-CA-R2, 2024-01-I-CA-R3, 2024-01-I-CA-R4, 2024-01-I-CA-R5, 2024-01-I-CA-R6, and 2024-01-I-CA-R7.

B. Response to the Recommendation

MPC has notified the CSB that they intend to implement the recommendations issued to both MMR and MPC. They have provided a plan of action that appears when implemented will satisfy the objectives of the recommendations and they have provided a timetable for completion.

C. Board Analysis and Decision

Based upon the information above, the Board voted to change CSB Recommendation Nos. 2024-01-I-CA-R2, 2024-01-I-CA-R3, 2024-01-I-CA-R4, 2024-01-I-CA-R5, 2024-01-I-CA-R6, and 2024-01-I-CA-R7 to: "Open – Acceptable Response or Alternate Response."