



## U. S. Chemical Safety and Hazard Investigation Board RECOMMENDATION STATUS CHANGE SUMMARY

<b>Report:</b>	Martinez Renewable Fuels Fire
<b>Recommendation Number:</b>	2024-01-I-CA-R6
<b>Date Issued:</b>	March 13, 2024
<b>Recipient:</b>	Marathon Petroleum Corporation
<b>New Status:</b>	Open – Awaiting Response or Evaluation/Approval of Response
<b>Date of Status Change:</b>	Not Applicable – Initial Status

### Recommendation Text:

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.

### 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 three recommendations to Marathon Petroleum Corporation. This status change summary addresses CSB Recommendation No. 2024-01-I-CA-R6.