



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

<b>Report:</b>	Chevron Refinery Fire
<b>Recommendation Number:</b>	2012-3-I-CA-UR02
<b>Date Issued:</b>	April 19, 2013
<b>Recipient:</b>	Chevron USA (CUSA)
<b>New Status:</b>	Closed – Acceptable Alternative Action
<b>Date of Status Change:</b>	January 20, 2021

### Recommendation Text:

*At all California Chevron U.S. refineries, report leading and lagging process safety indicators, such as the action item completion status of recommendations from damage mechanism hazard reviews, to the federal, state, and local regulatory agencies that have chemical release prevention authority.*

### Board Status Change Decision:

#### A. Rationale for Recommendation

On August 6, 2012, the Chevron Refinery in Richmond, California, experienced a catastrophic pipe failure in a crude unit, causing the release of flammable hydrocarbon process fluid, which partially vaporized into a large cloud. 19 Chevron employees engulfed by the vapor cloud escaped, narrowly avoiding serious injury. The ignition and subsequent continued burning of the hydrocarbon process fluid resulted in a large plume of unknown particulates and vapor. Approximately 15,000 people from the surrounding area sought medical treatment in the weeks following the incident.

The U.S. Chemical Safety and Hazard Investigation Board's (CSB) investigation found that the pipe failure was caused by sulfidation corrosion, a damage mechanism that causes piping walls to thin over time. The CSB found multiple reasons for the failure to detect this serious damage. Additionally, the CSB concluded that reporting of leading and lagging indicators to the relevant regulators would be an important driver for safety and health improvement of Chevron's refinery operation. As a result, the CSB issued a recommendation to Chevron USA, Inc. (CUSA) to report leading and lagging indicators to the relevant regulatory authorities, for all its California refineries.<sup>1</sup>

#### B. Response to the Recommendation

CUSA currently reports leading and lagging process safety indicator data for its Richmond refinery to Contra Costa Health Services, as required by the City of Richmond and the Contra Costa County Industrial Safety Ordinance.

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<sup>1</sup> Chevron operates two refineries in California: the Richmond refinery in Richmond and El Segundo refinery in Martinez.

Pursuant to the newly adopted California process safety management regulations that became effective on October 1, 2017, refineries must develop, implement, and maintain an effective program to track and document process safety performance indicators. The California Occupational Safety and Health Administration, or Cal/OSHA, periodically conducts Program Quality Verification (PQV) inspections at facilities under this new regulation and examines each facility's indicator data during this inspection.

In addition, newly adopted California Accidental Release Prevention Program (CalARP) Regulations require all of California's covered facilities, which include the CUSA Richmond refinery and El Segunda refinery, to report process safety indicators for the previous calendar year by June 30<sup>th</sup>.

CUSA informed the CSB that on June 30, 2019, CUSA's Richmond refinery provided leading and lagging process safety indicator data to its Unified Program Agency (UPA) and to Cal/OES on June 28, 2019. An updated version was sent to both agencies on May 11, 2020. CUSA's El Segundo refinery provided its leading and lagging process safety indicator data to its UPA and to Cal/OES on June 26, 2019. As of May 12, 2020, neither refinery had been subject to a PQV inspection by Cal/OSHA.

### C. Board Analysis and Decision

The Board determined that the CUSA's actions to submit process safety indicator data pursuant to local, state, and federal requirements met the intent of the recommendation. As such, the Board voted to change the status of CSB Recommendation No. 2012-3-I-CA-UR02 to: "Closed—Acceptable Alternative Action." The sole reason this was "Acceptable Alternative Action" is that Cal/OSHA did not request the process safety indicator data as they did not yet schedule a PQV inspection.