



U. S. Chemical Safety and Hazard Investigation Board

RECOMMENDATION STATUS CHANGE

SUMMARY

Report:	Chevron Richmond Refinery Fire
Recommendation Number:	2012-03-I-CA-R23
Date Issued:	November 5, 2014
Recipient:	Governor and Legislature of the State of California
New Status:	Closed – Acceptable Action
Date of Status Change:	March 16, 2026

Recommendation Text:

Work with the regulator, the petroleum refining industry, labor, and other relevant stakeholders in the state of California to develop and implement a system that collects, tracks, and analyzes process safety leading and lagging indicators from refineries and contractors to promote continuous safety improvements. At a minimum, this program shall:

- a. Require the use of leading and lagging process safety indicators to actively monitor the effectiveness of process safety management systems and safeguards for major accident prevention. Include leading and lagging indicators that are measureable, actionable, and standardized. Require that the reported data be used for continuous process safety improvement and accident prevention;*
- b. Analyze data to identify trends and poor performers and publish annual reports with the data at facility and corporate levels;*
- c. Require companies to publicly report required indicators annually at facility and corporate levels;*
- d. Use process safety indicators (1) to drive continuous improvement for major accident prevention by using the data to identify industry and facility safety trends and deficiencies and (2) to determine appropriate allocation of regulator resources and inspections; and*
- e. Be periodically updated to incorporate new learning from world-wide industry improvements in order to drive continuous major accident safety improvements in California.*

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. Nineteen 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.

As California's Division of Occupational Safety and Health (Cal/OSHA) administers the California Occupational Safety and Health Program and enforces California's process safety management (PSM) standard, the U.S. Chemical Safety and Hazard Investigation Board (CSB) examined the effectiveness of the Cal/OSHA program. Among several issues, the CSB found that the Cal/OSHA PSM standard did not effectively establish goals or contain leading and lagging indicator information to prevent accidents or reduce risk. The CSB issued nine recommendations to the Governor and Legislature of the State of California. This status change summary pertains to CSB Recommendation No. 2012-03-I-CA-R23.

B. Response to the Recommendation

California's newly adopted process safety management regulation for petroleum refineries under Section 5189.1 became effective on October 1, 2017. The rulemaking process includes the regulators, the petroleum refining industry, labor, and other relevant stakeholders in the state of California.

The Cal/OSHA Process Safety Management Unit provided several updates to the CSB regarding their implementation of the recommendation. They received training and revised their Program Quality Verification (PQV) audit checklists and questions to include leading and lagging indicator information.

Additionally, the California Department of Industrial Relations (Cal-DIR) provided the *Annual California Accidental Release Prevention (CalARP) Process Safety Performance Indicator Form* that is required to be submitted to CalEPA's CalARP Unit as well as the local Unified Program Agency (UPA) every year on June 30. The form is required to be public and covers the period from January 1 to December 31 of the prior year.

C. Board Analysis and Decision

Based upon the information above the State of California has taken action that satisfied the objectives of the recommendation. Therefore, the Board voted to change the status of CSB Recommendation No. 2012-03-I-CA-R23 to: "Closed – Acceptable Action."