



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

<b>Report:</b>	Chevron Refinery Fire
<b>Recommendation Number:</b>	2012-03-I-CA-R22
<b>Date Issued:</b>	November 5, 2014
<b>Recipient:</b>	Governor and Legislature of the State of California
<b>New Status:</b>	Closed – Acceptable Action
<b>Date of Status Change:</b>	April 14, 2022

### Recommendation Text:

*Implement a compensation system to ensure the regulator has the ability to attract and retain a sufficient number of employees with the necessary skills and experience to ensure regulator technical competency at all levels of process safety regulatory oversight and policy development in California. A market analysis and benchmarking review should be periodically conducted to ensure the compensation system remains competitive with California petroleum refineries.*

### 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 CSB investigation examined the effectiveness of the Cal/OSHA program. The CSB found that the three planned inspections of the Chevron refinery conducted between 2006 and 2012 averaged only 150 inspector hours, whereas a typical refinery inspection conducted under the Refinery National Emphasis Program (NEP) between 2007 and 2011 was 1,000 inspector hours. The CSB found also found that Cal/OSHA inspector salaries were 46% lower than an equivalent position at a refinery, making it difficult for Cal/OSHA to attract and competent retain inspectors. The CSB's investigation concluded that Cal/OSHA did not receive sufficient funding to employ a well-staffed, multi-disciplinary team capable of conducting thorough inspections of PSM-covered facilities in California. 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-R22 (R22).

#### B. Response to the Recommendation

On September 24, 2016, the California Department of Industrial Relations (DIR) informed the CSB that their Associate Safety Engineers (ASEs) who work within the Division of Occupational Safety and Health (DOSH) Process Safety Management (PSM) unit starting pay is \$85,500 and increases annually and incrementally to \$106,968. The compensation includes a benefit package valued at about 34% of gross salary. For top step ASE this brings the total compensation package to \$143,337. The ASE classification will also be receiving an increase of 3% in 2016 and 2% in 2017 to increase the top annual pay scale to \$112,316.

The 2013 Salary Survey of the American Institute of Chemical Engineers (AIChE) reported that chemical engineering salaries increased during the period 2011-2013. The survey shows that salaries ranged from \$67,000 for chemical engineers with fewer than six years of experience to about \$140,000 for those with more than 30 years in the workforce. The salary of survey respondents in the 2013 survey was \$120,000, representing a 9% increase over that reported in 2011. The PSM Unit has been able to recruit and retain chemical and mechanical engineers, pressure vessel inspectors, certified industrial hygienists and ASE's with over 18 years of refinery experience.

On December 30, 2021, Cal/OSHA provided a December 2021 market survey. From the survey, the average salary for a chemical engineer in the petroleum industry is \$138,280.00 compared to an Associate Safety Engineer in the Cal/OSHA PSM Refinery Unit at \$124,512.00. Cal/OSHA stated that the difference between working in the petroleum industry and for the State of California is the benefit package is superior to that of the petroleum industry. As an example, the retirement calculation for the petroleum industry caps out at 2% for every year of service with only the employee being covered for medical benefits at 20 years of service. Whereas the Associate Safety Engineer retirement package caps out at 2.5% for every year of service at age 62 and the employee AND spouse being covered for medical, dental, and vision at 20 years of service (50% for over 10 years of service.)

### C. Board Analysis and Decision

Based upon the information above, the Board determined that the State of California has a compensation system in place that is competitive with California petroleum refineries which is periodically compared with market research/benchmarking. As such, the State of California has satisfied all of the requirements of the recommendation. Therefore, the Board voted to change the status of CSB Recommendation No. 2012-03-I-CA-R22 to: "Closed – Acceptable Action."