U.S. Chemical Safety and Hazard Investigation Board

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Sarah Money, Occupational Safety and Health Standards Board
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September 2, 2016

Dear Ms. Money:

Thank you for the opportunity to provide these comments on the State of California Department of Industrial Relations (DIR) Division of Occupational Safety and Health Proposed addition to California Code of Regulations Title 8, Division 1, Chapter 4, Section §5189.1 *Process Safety Management (PSM) for Petroleum Refineries.* The Proposed Rule, as presented to the Occupational Safety and Health Standards Board improves upon California's PSM program, has the potential to serve as a model for PSM modernization nationally, and will help to prevent accidents and protect workers in California's refineries.

The U.S. Chemical Safety Board (CSB) has previously reviewed versions of the draft regulation and provided written and oral comments to the Department of Industrial Relations (DIR) in letters dated June 22, 2015[1] and October 7, 2015.[2]

Based on the proposal now before the Standards Board, the CSB makes the following comments and recommendations:

1) The CSB reiterates comments made to DIR in its letter of October 7, 2015. Those comments, which discuss issues surrounding the implementation of report recommendations, "major change" and "major incident" language, and the importance of restoring specificity to language involving safety performance indicators, are not addressed in the draft before the Standards Board. The CSB has found in investigations at refineries such as ExxonMobil in Torrance, California and Tesoro in Anacortes, Washington that minor changes, rather than "major changes," can accumulate to make up the causal chain that ultimately leads to an incident.

2) Through the collection and assessment of process safety indicators, a regulator may identify issues and shortcomings that, if corrected, could help prevent future incidents. Implementing the CSB's comments contained in our October 7, 2015 letter can help prevent major accidents at refineries. Rule Version 4.5 included requirements for employers to track specific process safety indicators, including the number of major incidents, past-due inspections of process piping and pressure vessels, past-due recommended actions, and indicators related to leak seals. We urge the Standards Board to restore such important indicators to help DIR and the public determine trends and risks at California refineries.

3) The current Scope and Purpose laid out in Section (a) is problematic. The major goal of accident *prevention* has been diminished to a partial and undefined goal of reducing risks. As the CSB has

[1] http://www.csb.gov/assets/1/7/Final_Comments_CSB_CA_Refinery_PSM_Draft_Proposed_Rule_6_22_2015.pdf (accessed September 1, 2016).
[2] http://www.csb.gov/assets/1/7/CSB_Comments_California_PSM_Draft_Regulations_5.0_Oct_7_2015(2).pdf (accessed September 1, 2016).

emphasized in recent oil refinery accident reports, good practice process safety guidance provides that the goal of PSM is to prevent incidents through targeted risk reduction to a low level such as "the greatest extent feasible." The prevention of accidents is a higher-level goal than reducing the risk of accidents, and is the underlying foundation of this proposed regulation. As such, the CSB suggests this more preventive language: "This Section contains requirements for petroleum refineries to reduce risks by preventing major incidents and applying a hierarchical approach to eliminate and control process safety hazards to which employees may be exposed."

4) In Section (c) of the current version of the draft PSM regulation, safety guidance and technical reports published by the American Institute of Chemical Engineers (AIChE) and its industry alliance the Center for Chemical Process Safety (CCPS) were dropped from the definition of Recognized and Generally Accepted Good Engineering Practices (RAGAGEP). The CSB notes that federal OSHA has consistently referenced CCPS publications as "compliance guidelines" and RAGAGEP. Removing those materials from the definition of RAGAGEP is inconsistent with modern PSM good practice and federal OSHA compliance guidelines.[3] We encourage the Standards Board to restore reference to AIChE and CCPS publications in the definition of RAGAGEP. The CSB also believes that the RAGAGEP definition should not permit industry to consider standards, guidelines, or practices developed for internal use by the employer as RAGAGEP, unless they are more protective than existing RAGAGEP. The deletion of this language transforms RAGAGEP into a more self-regulatory provision, where satisfying the requirement is determined by the employer.

5) The new definition of "Turnaround" under Section (C) stating that a turnaround does not include unplanned showdowns or other unexpected maintenance matters, as well as routine maintenance, is vague and not specific enough. Under this revised definition, an employer could mask a turnaround as an unplanned shutdown to avoid triggering regulatory requirements. The CSB encourages the Standards Board to refine this language to address this potential loophole.

6) Section (o) in Incident Investigation – Root Cause Analysis now does not include a goal or reason for the root cause analysis ("shall provide information sufficient for the employer to prevent a recurrence of the incident or a similar incident").

7) In Section (q) on Employee Participation (5)(B), the rule reads, in part, that "The employer shall prioritize and promptly respond to reports of hazards that present the potential for death or serious physical harm." We urge that the words "…prioritize and…" be removed since if a hazard could cause death or serious physical harm, it is an urgent matter that should not be subject to a prioritization process.

8) In Section (u), Compliance Audits, the draft language does not require that the audit report include documentation of all deficiencies, recommendations, and corrective actions taken. This type of information is necessary to help inform the regulator that the facility is working to identify hazards and continually reduce risks. The CSB suggests documenting all deficiencies identified in addition to the recommendations and corrective actions needed.

9) Finally, CSB investigations of California refinery incidents at Chevron in Richmond,[4] Tesoro in Martinez, and ExxonMobil in Torrance underscore the need for proactive regulator inspections, hierarchy

[3] Federal OSHA has used CCPS guidance as compliance guidance, and hence RAGAGEP, for some time. For example, *see* OSHA Directive CPL 03-00-010, *Petroleum Refinery Process Safety management National Emphasis Program.* August 18, 2009. https://www.osha.gov/OshDoc/Directive_pdf/CPL_03-00-010.pdf (accessed August 8, 2016).

[4] As a result of the U.S. Chemical Safety and Hazard Investigation Board's (CSB) investigation of the August 6, 2012, Chevron Richmond refinery fire, the CSB issued nine recommendations to the Governor and Legislature of the State of California which were made to address safety gaps identified during the investigation: USCSB. 2013. Interim Investigation Report: Chevron Richmond Refinery Fire. Pages 56-7. Available at: http://www.csb.gov/assets/1/19/Chevron_Interim_Report_Final_2013-04-17.pdf (accessed August 3, 2016); USCSB. 2014. Regulatory Report: Chevron Richmond Refinery Pipe Rupture and Fire. REPORT NO. 2012-03-I-CA. Pages 96-8. Available at: http://www.csb.gov/assets/1/19/Chevron_Regulatory_Report_11102014_FINAL_-_post.pdf (accessed August 3, 2016).

of controls analysis (HCA), targeted risk reduction, and the collection and assessment of process safety indicators. The CSB has repeatedly stated that preventive inspections are critical to ensure effective implementation of corrective actions following incidents and can help identify safety deficiencies, such as weak practices for equipment isolation, as seen in Tesoro Martinez and ExxonMobil. In its investigation of the ExxonMobil incident, the CSB has found that the refinery used weak and ineffective barriers to prevent hydrocarbons from entering the system where both workers and ignition sources were present. If ExxonMobil had been required to perform a HCA, they may have realized the inadequacy of these barriers and implemented stronger risk reduction measures consistent with good industry practices requiring blinds. The CSB believes it is imperative that the current proposed language contained in Section (l), the Hierarchy of Controls Analysis, remain in the final regulation, as it would require the use of inherent safety measures and the elimination of hazards to the greatest extent feasible. In addition, as we previously noted, the definition of feasibility and its use in Section (x) is inconsistent with the application of the requirement to reduce risk to the "greatest extent feasible" and should be made consistent with Section (l). Without an explicit requirement of risk reduction to the greatest extent feasible and the use of inherent safety measures, refineries are not required to demonstrate that they have taken all reasonable and feasible measures to reduce the risk of an accident and keep their employees safe.

The CSB applauds the DIR for its encouragement of extensive public participation in the development of these rules. We also appreciate the substantial work by the DIR to consider our agency's recommendations. Thank you again for your efforts to help ensure safety at California's refineries.

Sincerely,

Vanessa Allen Sutherland
Chairperson and Member

Rick Engler
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