

Modernize U.S. Process Safety Management Regulations

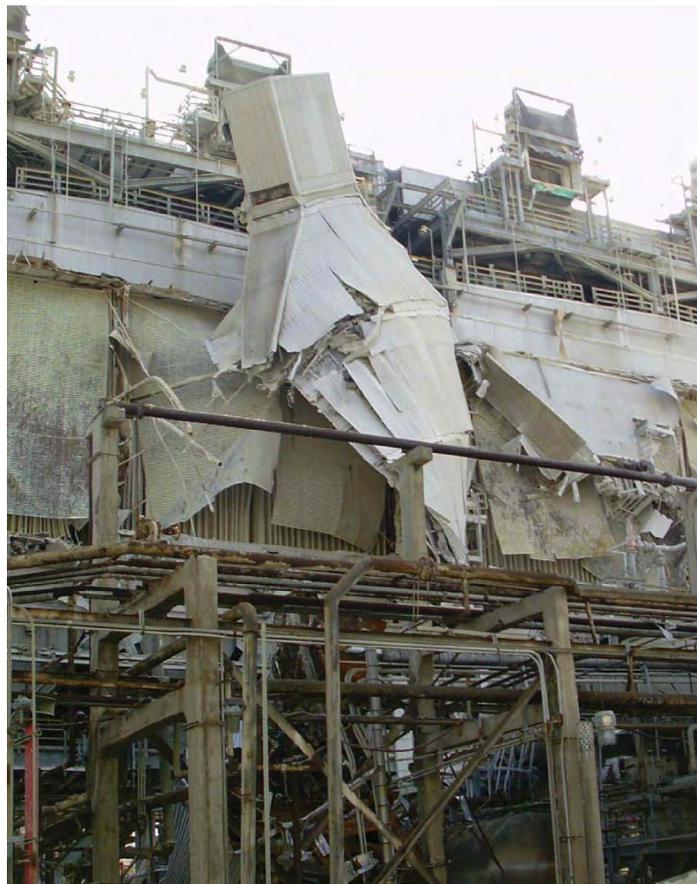
Process Safety Management (PSM) can prevent major chemical incidents. PSM is the control of process hazards in order to prevent process-related injuries and incidents. Both OSHA and EPA have safety management regulations. PSM regulations in the U.S. have undergone little reform since their inception in the 1990s. While there have been some initial steps toward improvements in PSM at the Federal level, a more comprehensive PSM system is needed to protect worker safety, public health and the environment.

Over the last two decades, the CSB has conducted several investigations that identified a need for improvements and modernization to OSHA's PSM and to EPA's Risk Management Plan (RMP) Program. The CSB has noted in its investigations of major refinery incidents that both PSM and RMP, although written as performance-based regulations, appear to function primarily as prescriptive activity-based regulatory schemes that require extensive rulemaking to modify, resulting in stagnation despite the availability of revised best practices and technology.

Specifically, CSB investigations of the Tesoro Anacortes refinery explosion and fire in April 2010 and the Chevron Richmond refinery fire in August 2012 found that there was no requirement to reduce risks to As Low As Reasonably Practicable (ALARP). There was no mechanism to ensure continuous safety improvement; no requirement to implement inherently safer technology or the hierarchy of controls; no increased role for workers and worker representatives in process safety management; and there needed to be a more proactive, technically qualified regulator in place.

As a result of these findings, the CSB made recommendations at the Federal, state, and local level to prevent major incidents

Although recently there have been some positive initial steps taken toward significant improvement in process safety, more must be done to protect worker safety, public health, and the environment.



CSB ExxonMobil Torrance Refinery Investigation, 2015

CSB'S DRIVERS OF CRITICAL CHEMICAL SAFETY CHANGE



U.S. Chemical Safety and Hazard Investigation Board

by adopting a more rigorous regulatory system that requires covered facilities to continuously reduce major hazard risks.

To improve OSHA's PSM Standard and EPA's RMP Program, the CSB has made the following recommendations:

- Update existing Process Hazard Analysis (PHA) requirements to include the documented use of inherently safer systems, hierarchy of controls, damage mechanism hazard reviews, and sufficient and adequate safeguards;
- Develop more explicit requirements for facility/process siting and human factors, including fatigue;
- Add safety-critical equipment to existing mechanical integrity requirements; and
- Require coordination of covered facility emergency plans with local emergency response authorities.



CSB West Fertilizer Investigation, 2013

Year	Investigation/Deployment
2013	West Fertilizer Explosion and Fire
2012	Chevron Richmond Refinery Fire
2010	Tesoro Anacortes Investigation
2005	BP Texas City Investigation
2001	Motiva Refinery Investigation
2000	Improving Reactive Hazard Management

VISION: A nation safe from chemical disasters.

MISSION: Drive chemical safety change through independent investigations to protect people and the environment.

The CSB is an independent, non-regulatory Federal agency charged with investigating serious chemical incidents. The agency's board members are appointed by the president and confirmed by the Senate. CSB investigations look into all aspects of chemical incidents, including physical causes such as equipment failure as well as inadequacies in regulations, industry standards, and safety management systems.

The Board does not issue citations or fines but does make safety recommendations to facility management, industry organizations, labor groups, and regulatory agencies such as OSHA and EPA.

U.S. Chemical Safety Board

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