

Fact Sheet
August 2017
Regulatory Changes to Improve Oil Refinery Safety

Background

A fire at the Chevron Richmond refinery in August, 2012 raised serious concerns about refinery safety in California. In response, the Governor's Working Group on Refinery Safety issued a [report](#) recommending major changes to worker and community safety regulations governing refineries in California. In developing revisions to the regulations, state agencies conducted extensive outreach to industry, refinery workers, community-based organizations, local government agencies, and the public. During 2014-15, there were 26 meetings and hearings, many held in local communities near refineries, to discuss the proposed refinery safety regulations and elicit input.

Refinery Safety Regulations

Two regulations have been changed: the [California Accidental Release Prevention \(CalARP\)](#) Program through the Governor's Office of Emergency Services (OES) and the [Process Safety Management \(PSM\)](#) regulations, through Cal/OSHA, within the Department of Industrial Relations (DIR). Although the substance of both regulations is very similar, the PSM regulation is focused on minimizing risks to employees, whereas the CalARP regulation is designed to protect the safety and health of the community.

Steps to Improve Public and Worker Safety

The new regulations require refineries to take the following actions:

- Use a systematic approach known as the Hierarchy of Hazard Controls to eliminate or reduce hazards in refinery processes to the greatest extent feasible;
- Perform periodic refinery safety culture assessments to evaluate whether management is appropriately emphasizing safety over production pressures;
- Perform damage mechanism reviews on process equipment to predict problems such as corrosion before leaks occur;

- Analyze and address human factors and organizational changes, including employee fatigue and experience, and operational reorganization;
- Use structured methods to ensure adequate and independent safeguards are in place to prevent incidents;
- If a major incident occurs or is narrowly avoided, conduct thorough investigations to identify underlying root causes and develop interim and permanent corrective actions;
- Implement corrective actions for all aspects of the process safety program according to clear and enforceable timelines, with consequences for delays;
- Involve employees and employee representatives in all elements of the process safety program, including all activities required above;
- Give operating employees clear authority to shut down a process due to safety concerns, and give all employees the ability to anonymously report process safety concerns and to refuse work due to process safety concerns;
- Make more information available to the public, including annual safety metrics for each refinery.

An analysis by the RAND Corporation developed a best estimate of benefits from the new regulations of \$800 million per year from reduced major incidents at refineries (not including lives saved or the savings in health costs), and an estimated total implementation cost across the 15 California refineries of \$58 million.

The regulations are posted at the following links:

[California Accidental Release Prevention Program](#)
[Process Safety Management for Petroleum Refineries](#)