COMMISSION ON HEALTH & SAFETY and WORKER'S COMPENSATION
Cal/OSHA Process Safety Management Unit

Since We Last Met

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The Process Safety Management Unit

Mission Statement

The goal of the Cal/OSHA Process Safety Management Unit is to protect workers and the public from health and safety hazards by enforcing California's occupational and public safety laws, and to provide information to employers, workers, and the public about workplace and public safety matters.

California's refinery sector is one of the nation's largest and is regulated by standards adopted in the early 1990s.

- In August 10, 1992 California became the first State to implement its own Process safety Management regulation (Title 8 §5189 Process Safety Management of Acutely Hazardous Materials.) After the 1999 fire at the Tosco Refinery in Martinez, California, which caused the deaths of four refinery employees, DIR established a dedicated PSM unit; that unit was and is the only program of its kind in the nation today.

Past Staffing and Workload 2001-2012

- The ten-year average of inspections in refineries was **27** including **2,014** inspector hours a year or **75** hours per inspection. While inspections in non-refinery PSM facilities were **112** hours a year with **7,735** inspector hours a year or **69** hours per inspection. For the 2001-2012 period, the PSM Unit as a whole conducted an average of **139** inspections a year involving **9,749** inspector hours per year or **70** hours per inspection.
- In addition to the enforcement inspections, PSM staff members also spent time in training, preparing for and participating in appeal hearings, and performed professional and administrative duties.

Enforcement

- The PSM Unit enforces occupational safety and health standards applicable to 14 petroleum refineries and 1,940 chemical plants in California.

- Inspections target high-risk facilities and focus on timely, effective abatement.

Inspections Completed During CY19

Inspection Type	Refinery		Chemical (Non-Refinery)	
	#	Hours	#	Hours
Planned, or Program Quality Verification (PQV)	5	2627*	58	9649
Complaint-Based	3	780	5	767.5
Interagency Referral-Based	2	698	2	161
Accident-Based	3	2155.5	2	71
Refinery Turnaround Inspections (under Labor Code § 7872)	4		N/A	
Contractor Inspections (to ensure compliance with 8 CCR § 5189.1(h))	5	1246.5	5	145
TOTAL	**22**	6920 (998 per 7 CSHO)	**72**	10794 (831 per 13 CSHO)

Classifications of Citations Issued in CY19

Violation classification*	Refinery (22 inspections)		Chemical (Non-Refinery) (72 inspections)	
	#	%	#	%
Serious	11	15%	65	19%
General	63	85%	275	81%
Regulatory	0	0%	0	0%
Willful	0	0%	0	0%
Repeat	0	0%	0	0%
Notice in lieu of citation	0	0%	0	0%
TOTAL	74	100%	340	100%

Current Positions

• Statewide Manager & Policy Advisor	1
• Principal Safety Engineer	1
• District Managers	4
• Senior Safety Engineers	4
• Compliance Officers (Refinery)	10
• Compliance Officers (Non-Refinery)	16
• Support Staff	6
• **Total**	**42**

Deeper and Broader Training

- Mandatory PSM Training
  - **3300 PSM for Refineries** **40 hours**
  - **3400 PSM for Chemical Facilities** **40 hours**
  - **3430 Advanced PSM** **80 hours**
  - Advanced PHA & LOPA Methodologies 40 hours
  - Damage Mechanism Review 24 hours
  - {HCA} Inherent Safety Training – 40 hours
  - Ammonia Refrigeration Training 24 hours
  - Field Training – 175 hours
  - DOSH Training – 225 hours
  - 5189.1 Training – 120 hours

✓ Total Hours = **768 hours**

Training Requirements

- Inspections may be conducted by either a single Cal/OSHA employee or a team. At least one member of the team or the Cal/OSHA employee must be qualified to Level 1 as described below.
  - Level 1 – a Level 1 Cal/OSHA CSHO has completed the three Federally Mandated PSM courses totaling 160 hours combined.
  - Level 2 – a Level 2 Cal/OSHA employee has completed two of the three Federally Mandated PSM courses. A Level 2 trained Cal/OSHA employee may work under the direction of a Level 1 Cal/OSHA employee.
  - Level 3 team members experienced in evaluating other programmatic standards such as hazard communication, lockout/tagout, confined space entry, and respiratory protection programs may evaluate compliance with programmatic sections of the PSM standard.
    - Level 3 team members must be under the direction of a Level 1 or 2 team member.

Strategic Plan for 2020 (Refinery)

- The PSM Unit will be divided into two groups. The first group or Refinery Group will be comprised of 10 CSHOs, 5 in the north and 5 in the south. The north and south refinery groups will be required to conduct 4 PQV inspections of refineries respectively. Based on past inspections and information provided by Fed/OSHA. There will also be a minimum of 4 turnaround inspections 2 north, and 2 south.

Strategic Plan for 2020 (Non Refinery or Chemical))

- The Non-Refinery PSM Group will be comprised of 16 CSHO's statewide, 8 in the north and 8 in the south. The Non-Refinery PSM Group will complete an average of 60 programmed inspections, per CSHO, using the NEP. The NEP relies on specific investigative questions. The investigative questions are designed to gather facts related to requirements of the PSM standard, and include guidance for reviewing documents, interviewing workers, and verifying full implementation.

Strategies of Enforcement 5189.1for Refineries

- Areas of Cal/OSHA Focus and Interest for 2020
- Implementation
- Contractor training
- Turnarounds

Implementation

- Refineries are going a good job coming into compliance with the development of PSM programs i.e. Damage Mechanism Programs and Hierarchy Control Programs…
- But are still struggling with the implementation of these programs.
- Refinery PQV inspections are “weeding out” these areas of implementation Violations.

Health & Safety Code 25536.7 Contractor Training

Requires all contractors prior to working in refineries to have passed a 20-hour advanced safety training course for high hazard facilities.

The curriculum must be approved by the Division of Apprenticeship Standards. Must be submitted by January 1, 2016 (Extended.)

Previous RSO Training – 8-hours

20-hour advanced safety training to be completed by July 1, 2018.

Contractor training enforced under PSM Standard.

During Refinery Turnaround Inspections

- During turnaround inspections Cal/OSHA will conduct inspections on contractors for compliance with 5189.1 PSM for Refineries. Specifically,
  - 20-hour Advanced Refinery Training by an approved site
  - Site-Specific Training
  - Contractor training
- The PSM Unit will take actions based on this information.

Refinery Inspections

- Refinery Turnaround inspections are going smoothly. As far as I know, a few general citations has been issued.

PQV Inspections

- PQV inspections are going well. Working with refineries to ensure compliance. No Willful or Repeat citations issued to refineries during last year's PQV Inspections.

Title 8 5189.1 PSM for Refineries… Where do we go from here…

- Washington State
- China

Of Note - Two Significant Enforcement Efforts

- **Chevron Richmond Refinery**
- This inspection required 2,600 hours of inspector time and additional outside subject matter expertise. Enforcement efforts uncovered a systemic need to address pressure relief valves throughout the refinery. At the conclusion of this six-month investigation, the PSM Unit cited Chevron for one serious, one regulatory, and eight general violations. Following appeal, the settlement agreement documented Chevron's acknowledgement of and commitment to addressing the process safety issue discovered during the inspection by requiring the refinery to replace or re-calculate every pressure relief valve setpoint in the facility in accordance with Recognized and Generally Accepted Good Engineering Practices (RAGAGEP). This comprehensive abatement will significantly increase safety for the facility and surrounding communities.

Of Note - Two Significant Enforcement Efforts

- **Torrance Refinery**
- The Alkylation/Hydrofluoric Acid Unit at the Torrance Refinery has garnered much attention from the public, regulators, and the Legislature because of the risks for workers and surrounding communities associated with its activities. The PSM Unit opened a PQV inspection at this refinery in July 2017 and had dedicated 2,800 hours of inspector time to this inspection as of January 1, 2018, compared to the standard 1,200 hours per inspection. In response to extensive evaluations performed by PSM Unit inspectors of the health and safety risks and best practices to address them, the refinery has assigned a special team to improve its safeguards. The new safeguards exceed existing abatement requirements and will greatly enhance the safety of workers and the public.

Challenges

- While the PSM Unit is on track to meet the PQV inspection goals outlined in the Budget Change Proposal, initial achievements were delayed.
- The PSM Unit is committed to robust training of staff to ensure effective enforcement and promote compliance with strong standards to protect the health and safety of the state's workforce. In addition to mandated enforcement and operations training, the PSM Unit increased inspector training from the federally mandated 160 hours in 2012 to 340 hours in subsequent years to ensure staff are trained on new regulatory requirements in California Code of Regulations, title 8, section 5189.1
- Empowered by legislation and regulation, the PSM Unit now has the tools and quality and quantity of staff necessary to successfully enforce California's recognized standards in process safety.

Projects

- Recognized and Generally Accepted Good Engineering Practices (RAGAGEP) Study
- A Study is being conducted by the RAND Corporation to determine:
  - What is and Is Not A Ragagep
  - Are Internal Standards Legal Under 5189 and 5189.1?
  - Can RAGAGEPs be “prioritized” i.e. ranked 1 through 4
  - Should vs. Shall Can :should” be mandated
  - Are Safeguards i.e. respiratory protection, Engineering Practices

Questions?

STATE OF CALIFORNIA
CAL OSHA
DEPARTMENT OF INDUSTRIAL RELATIONS