

# Cal/OSHA

Title 8 Section 5189  
Process Safety Management  
of Acutely Hazardous Materials

AN OVERVIEW PRESENTATION

*Presented By:*

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What is Title 8, Section  
5189: Process Safety  
Management of Acutely  
Hazardous Materials  
???  
(PSM)

# Central to Cal/OSHA is “The avoidance of catastrophic failure”

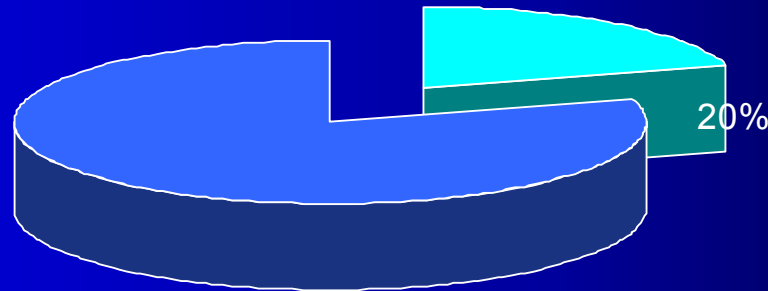
PSM contains requirements for preventing or minimizing the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals.

The establishment of process safety management regulations are intended to eliminate, to a substantial degree, the risks to which employees are exposed in petroleum refineries, chemical plants and other facilities.

# Reason For Establishment

- An explosion and fire at the Phillips Petrochemical Plant occurred on October 1989 near Houston, Texas.
- It killed 24 and injured another 128.
- Prompted OSHA to seek more preventative measures to decrease such disasters in the future, hence the creation of Process Safety Management.

PSM Citations are 17<sup>th</sup> of the Top 25 Most Cited Citations in 2004 Totaling 201 Violations. Percentage of Serious Citations Addressing PSM



# Application

- The standard applies to a process which contains a threshold quantity or greater amount of a toxic or reactive HHC as specified in Appendix A. Also, it applies to 10,000 pounds or greater amounts of flammable liquids and gases and to the process activity of manufacturing explosives and pyrotechnics.

# Application (continued...)

- Process Safety Management is thought to apply only to the Petroleum and Chemical Industries, but this is false.
- PSM applies to any operation that uses, processes, or stores any dangerous chemical near or above its threshold value.
- Does PSM apply to a poultry processing plant ?
- Yes! Due to the amount of ammonia and/or chlorine used.

# Exceptions to PSM

- The standard does not apply to retail facilities, normally unoccupied remote facilities and oil or gas well drilling or servicing activities.
- Hydrocarbon fuels used solely for work place consumption as a fuel are not covered.
- Atmospheric tank storage and associated transfer of flammable liquids which are kept below their normal boiling point without benefit of chilling or refrigeration are not covered by the PSM standard unless the atmospheric tank is connected to a process or is sited in close proximity to a covered process such that an incident in a covered process could involve the atmospheric tank.



# Regulatory Intent

- Replace the “BREAKDOWN” maintenance philosophy with an **on-going equipment, piping, and integrity philosophy** that ensures that process equipment and instrumentation are designed, constructed, installed, and maintained to minimize the risk of hazardous releases.
- A strong **mechanical integrity program and proper operations form the first line** of defense against accidental releases from process equipment.

# There are 13 Elements to a PSM Program

- Process Safety Information
- Process Hazard Analysis
- Operating Procedures
- Training
- Contractors
- Pre-Start Up Safety Review
- Mechanical Integrity

# PSM Elements Continued..

- Hotwork Permit
- Management of Change
- Incident Investigation
- Emergency Planning and Response
- Injury Illness Prevention Program
- Employee Participation

# OSHA PSM Focus

- Pressure vessels, storage tanks, and pumps
- Piping systems and components (including valves)
- Relief and vent systems
- Emergency shutdown systems
- Controls, sensors, alarms, and interlocks



# History of PSM District Offices

- The Northern and Southern California PSM District offices were established in 2001 after the February 1999 Tosco Refinery incident in which four workers were killed and another severely and permanently injured after a highly flammable material ignited during a turnaround operation.

# Mission

- To ensure that establishments covered by the PSM standard are complying with PSM requirements, district office compliance personnel shall conduct programmed, accident, complaint, or referral-based inspections of PSM regulated establishments.

# Enforcement

- The primary enforcement method the district office will utilize to assess PSM compliance in covered establishments is a PSM-specific inspection, termed a Program-Quality-Verification, or PQV inspection.

# Current Operation

- The Northern California PSM District office has been in operation since May 1, 2001. Currently, the district office is comprised of a District Manager, an Office Technician, two Associate Industrial Hygienists, and two Associate Engineers. From May 2001 thru December 2004, the Northern California PSM District office has completed 240 PSM related inspections and has assessed “finalized” civil penalties totaling over \$900,000.00.



# Goal

- Experience has shown that effective outreach and education, along with a targeted enforcement program, will achieve greater voluntary compliance and reduce injuries, illnesses, and fatalities.

# A Final Note

*“There are risks and costs to a program of action, **BUT**, they are far less than the long range risks and costs of comfortable inaction!”*

John F. Kennedy

QUESTIONS?