

Management Systems and Process Safety Management

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Safety Management System Strengths

- Management systems (such as PSM and Injury and Illness Prevention Programs) work because they provide for:
 1. System design←
 2. System execution
 3. System evaluation
 4. System correction
 5. (repeat)_____

Safety Management System Core Elements

- Six core elements:
 - Management leadership
 - Worker participation
 - Hazard identification and assessment
 - Hazard prevention and control
 - Education and training
 - Program evaluation and improvement



History of Process Safety Management

- PSM became effective in 1992
- Stakeholders consensus regarding the performance-based model
- A single prescriptive regulation could not cover all facilities

History of Process Safety Management

- PSM sets a management framework for preventing or minimizing the consequences of catastrophic releases of highly hazardous chemicals
- PSM incorporates the philosophy and strengths of safety management systems

Process Safety Management

Basic Elements

- Employee participation
- Process safety information
- Process hazard analysis
- Operating procedures
- Training
- Contractor safety
- Pre-start up safety review
- Mechanical integrity
- Hot work permit
- Management of change
- Incident investigation
- Emergency response
- Compliance audits

Benefits of the Process Safety Management System Framework

- Flexible
- Comprehensive
- Adaptive
- Creative



PSM Enforcement

- PSM enforcement directive outlined the inspection plan
- Detailed and resource intensive
- Inspections focused on program existence



PSM Enforcement

- Few inspections conducted
- PSM inspection evolved into a reactive model
- Inspections followed incidents only
- Until BP Texas City disaster in March 2005



Reaction to BP Texas City

- Data showed that of all PSM-covered industries refining and oil and gas experienced the most significant incidents
- OSHA determined that PSM enforcement must change
- Reactive enforcement does not move the program or the industry forward



New PSM Enforcement Model

- OSHA developed the Petroleum Refinery National Emphasis Program in 2007
- A national emphasis program (NEP) sets minimum inspection requirements within a particular industry or program
 - Number of inspection in a fiscal year
 - Questions to ask
 - Information to request



New PSM Enforcement Model

- Refinery NEP successfully concluded in 2011
- PSM-Covered Chemical Facility NEP currently operating
 - Allows for many shortened PSM inspections

PSM Future

- Executive Order 13650 (8/1/13)
- OSHA PSM Request-for-Information (12/9/13)
 - Addresses many gaps identified since promulgation
 - Addresses modernizations necessary to align with EPA and current industry practice

