PSM • RMP • CalARP

Current Regulatory Framework & Upcoming Changes

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  - Pharmaceuticals
- Dispersion Modeling
- P&ID Development
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- Auditing
- Webinar / Presentation Speaker on PSM/RMP Issues
Key Topics

• Current SMS Program Elements & Overlap
• Expansion/Modernization Initiatives Overview
• Key Elements of Regulatory Expansion/Modernization Efforts
• General Implementation Strategies & Resources
• Questions?
Overview of SMS Program Expansion/Modernization Initiatives
Status and What to Expect

- **Chemical Safety Board (CSB)**
  - April 2013, October 2014, January 2015 – All 3 Investigation Reports Published
  - Investigation Completed, Recommendations Tracked

- **U.S. EPA**
  - 14Mar16 – “Proposed Rule Making” for RMP Updates Published
  - Final Regulation Promulgation – Estimated Mid 2017

- **Federal OSHA**
  - RFI Comments to be Processed
  - Draft Regulations to be Generated
  - Timeline – “Years, not Months”
  - Interpretation Letters
Status and What to Expect

• Contra Costa County & City of Richmond
  – Current Initiative to Increase Involvement of Community Oversight Group in Process Safety Culture Assessments

• Cal/OSHA CalPSM-R
  – 05Jul16 Updated Draft §5189.1 Issued
  – Final Regulation Promulgation – Mid 2017
  – Initially, 2 Separate PSM Regulations in California
  – Initially, No Planned Synchronization w/Federal PSM/RMP
Status and What to Expect

- CalEPA & CalOES CalARP
  - 01Jun15 Promulgation of Minor Update to CalARP
  - 24Sept15 Draft of Additional Update Align with Draft §5189.1
  - 31Aug16 Public Hearing in Wilmington CA for Explanation of the Changes and Public Comments
  - Single CalARP Regulation with Additional Requirements (Program 4) for “High Hazard Facilities” (NAICS 32411)
  - Not Designed to Synchronize with §5189.1
Current Safety Management System (SMS) Program Elements & Overlap
Overlap of Key Current CA SMS Programs (Onshore Facilities)
Key Modernization Activities
(Onshore Facilities)

www.RMPCorp.com/SMS_Regulatory_Updates/

CalOES: California Office of Emergency Services; Cal/OSHA: California Occupational Safety & Health Administration; CSB: Chemical Safety Board; EPA: United States Environmental Protection Agency; IRTF: Interagency Refinery Task Force; OSHA: U.S. Occupational Safety & Health Administration; CalEPA: California Environmental Protection Agency; CCC: Contra Costa County; CoR: City of Richmond
Addressing Key Elements of CalARP, CalPSM-R, & RMP Regulatory Expansion/Modernization Efforts (with Implementation Tips)
PSM Elements

- Employee Participation
- Process Safety Information
- Process Hazard Analysis
- Operating Procedures
- Training
- Contractors
- Pre-Startup Safety Review
- Mechanical Integrity
- Hot Work Permit
- Management of Change
- Incident Investigation
- Emergency Planning & Response
- Compliance Audits (CA-IIPP)
Impact Categories

• Following table follows 5189.1 Draft Regulation Table of Contents

• Three Main Categories
  * indicates minimal changes to regulation or minimal effort needed for compliance
  ** indicates moderate changes to regulation or moderate effort needed for compliance
  *** indicates new element or significant effort needed for compliance
CalPSM-R Elements

- Process Safety Information
- Process Hazard Analysis
- Operating Procedures
- Training
- Contractors
- Pre-Startup Safety Review
- Mechanical Integrity
- Damage Mechanism Review
- Hierarchy of Hazard Control Analysis (IST/HCA/STAA)
- Hot Work
- Management of Change
- Incident Investigation - RCA
- Emergency Planning & Response
- Employee Participation
- Process Safety Culture Assessment
- Human Factors
- Management of Organizational Change
- Compliance Audits
- PSM Program
<table>
<thead>
<tr>
<th>Program Element</th>
<th>CalPSM-R (Draft)</th>
<th>CalARP (P4-Draft)</th>
<th>EPA-RMP (P2/3-Draft)</th>
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General Implementation
Strategies & Resources
Overlap of Key Current CA SMS Programs (Onshore Facilities)
Overlap of Post-2016 CA SMS Programs (Onshore Petroleum Refineries)

Fed-RMP – Post 2016

CalPSM-R (5189.1)
What Should I be Doing Now?

- All California CalARP-Covered Facilities
  - Adherence to New 01Jan15 CalARP Requirements
- Contra Costa County & City of Richmond – 9 Facilities
  - Adherence to June 2014 CCC ISO 450-8 & Analogous CoR ISO
- California Petroleum Refineries
  - Recommendation from a Key Regulator – Begin Applying “High-Value/Priority” Elements of CalPSM-R & New CalARP Now – Once promulgated, “schedules will be tight,” and if substantial progress has been made addressing the spirit of the new requirements, “selective-’grandfathering’ may be allowed.” Tight schedules could result in a shortage of qualified resources.
  - Some elements (e.g., IST/HCA/STAA) are significantly more cost-effective in the design-phase, or at the earliest possible opportunity.
What Should I be Doing Now?

- U.S. PSM/RMP-Covered Petroleum Processing Facilities
  - Awareness of CalPSM-R for Best Practices for "High Hazard Facilities"
- All – Closely Monitor Regulatory Changes
- Potential For
  - Later expansion to other highly-hazardous facilities in California
  - Later expansion to non-California petroleum refineries & others
  - Inference to new requirements as best practice
  - General Duty Clause Correlation - SB 612 clarifies Owner/Operator responsibilities.
Resources for Handling Evolving Requirements

- HAZOP/LOPA Facilitation Webinar Series (Module 10) – Effective approaches to handling CSB recommendations and PSM and CalARP changes
  - DMR
  - SPA
  - Inherently Safer Technology/Design (i.e., IST/HCA/STAA)
- 2015 Global Congress on Process Safety – Papers
  - Maher, Nour, Schultz, “Effectively Addressing New PSM/RMP Damage Mechanism Review Requirements with an Integrated PHA (iPHA)”
- 2016 Global Congress on Process Safety – Papers
  - Maher, Metulev, “PSM/RMP Modernization Programs in California New Developments & Correlation to Evolution at the Federal Level”
- Webinars – Updates on the PSM/RMP Regulatory Modernization Programs
  - 19Aug14 – 25Sep14
  - 22Jan15 – 09Apr15
  - 25Jun15 – 30Jul15
  - 27Aug15
  - 29Oct15 – Regional Seminar – Simulcast as Webinar
- Links are provided on www.RMPCorp.com/SMS_Regulatory_Updates/
Summary & Conclusion

- **Recommendation from a Key Regulator** – Begin Applying “High-Value/Priority” Elements of CalPSM-R Now
  – Once promulgated, “schedule will be tight,” and if substantial progress has been made, selective-”grandfathering” may be allowed.

- **Tight schedules could result in a resource shortage.**
- **In addition, some elements (e.g., IST/HCA/STAA) are significantly more cost-effective in the design-phase, or at the earliest possible opportunity.**

- **Risk Management & Process Safety Professionals should:**
  - Carefully monitor modernization programs.
  - Focus on charting the course for the long-term success of your facility’s programs.
  - Develop a strategy for effective implementation.
Questions?

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