

PSM • RMP • CalARP
**Current Regulatory Framework
& Upcoming Changes**

Michael Saura
Aleksandar Metulev

Risk Management Professionals
U.S. (877) 532-0806 ♦ www.RMPCorp.com

Michael Saura

Risk Management Professionals

- Mechanical Engineering - University of The Philippines / University of California Los Angeles
- HAZOP / LOPA Study Facilitator
 - Onshore and Offshore Production Facilities
 - Petroleum Refineries
 - Water Treatment Facilities
 - Chemical Manufacturing
 - Pharmaceuticals
- Dispersion Modeling
- P&ID Development
- CalARP / RMP / PSM Program Development
- Auditing



Aleksandar Metulev

Risk Management Professionals

- Chemical Engineering / Materials Science & Engineering - University of California Irvine
- HAZOP / LOPA Study Facilitator
 - Onshore and Offshore Production Facilities
 - Petroleum Refineries
 - Ammonia Refrigeration
 - Chemical Manufacturing
 - Pharmaceuticals
- Dispersion Modeling
- P&ID Development
- CalARP / RMP / PSM Program Development
- 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
 - June 2014 – Issued ISO 450-8 (“Risk Management”) & Analogous CoR ISO
 - 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



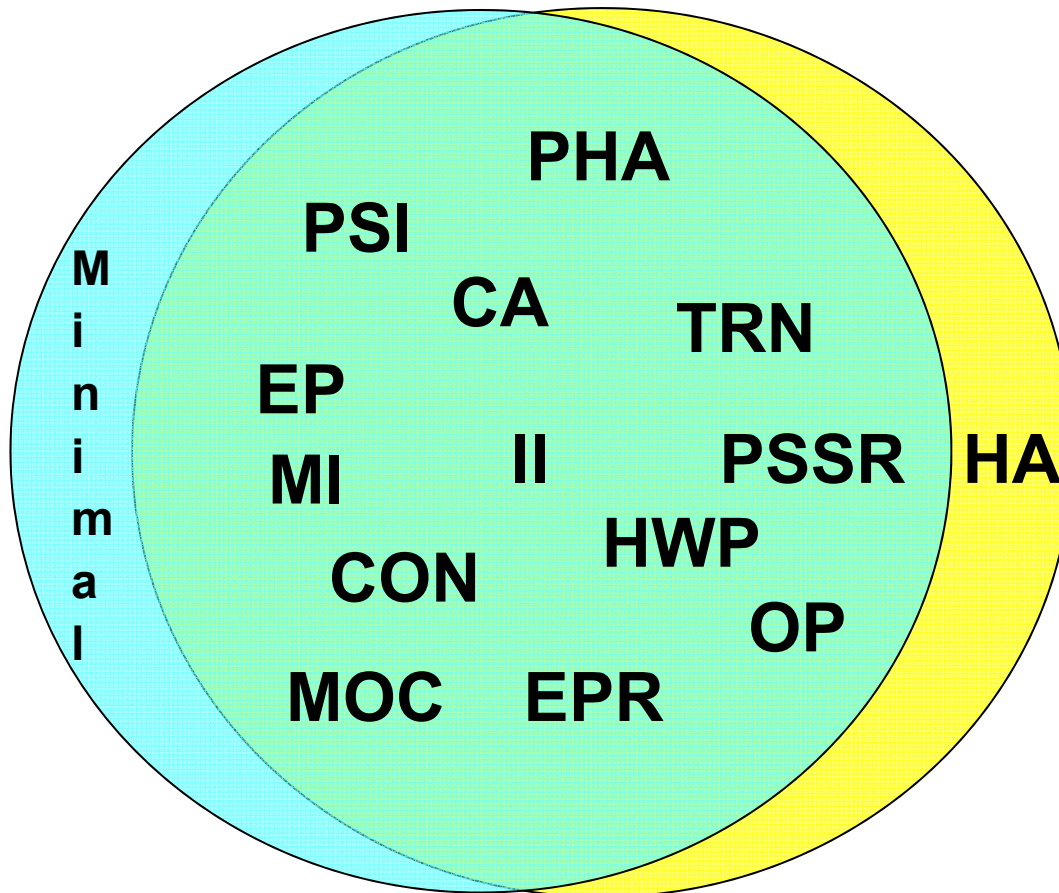
Current Safety Management System (SMS) Program Elements & Overlap



Overlap of Key Current CA SMS Programs (Onshore Facilities)

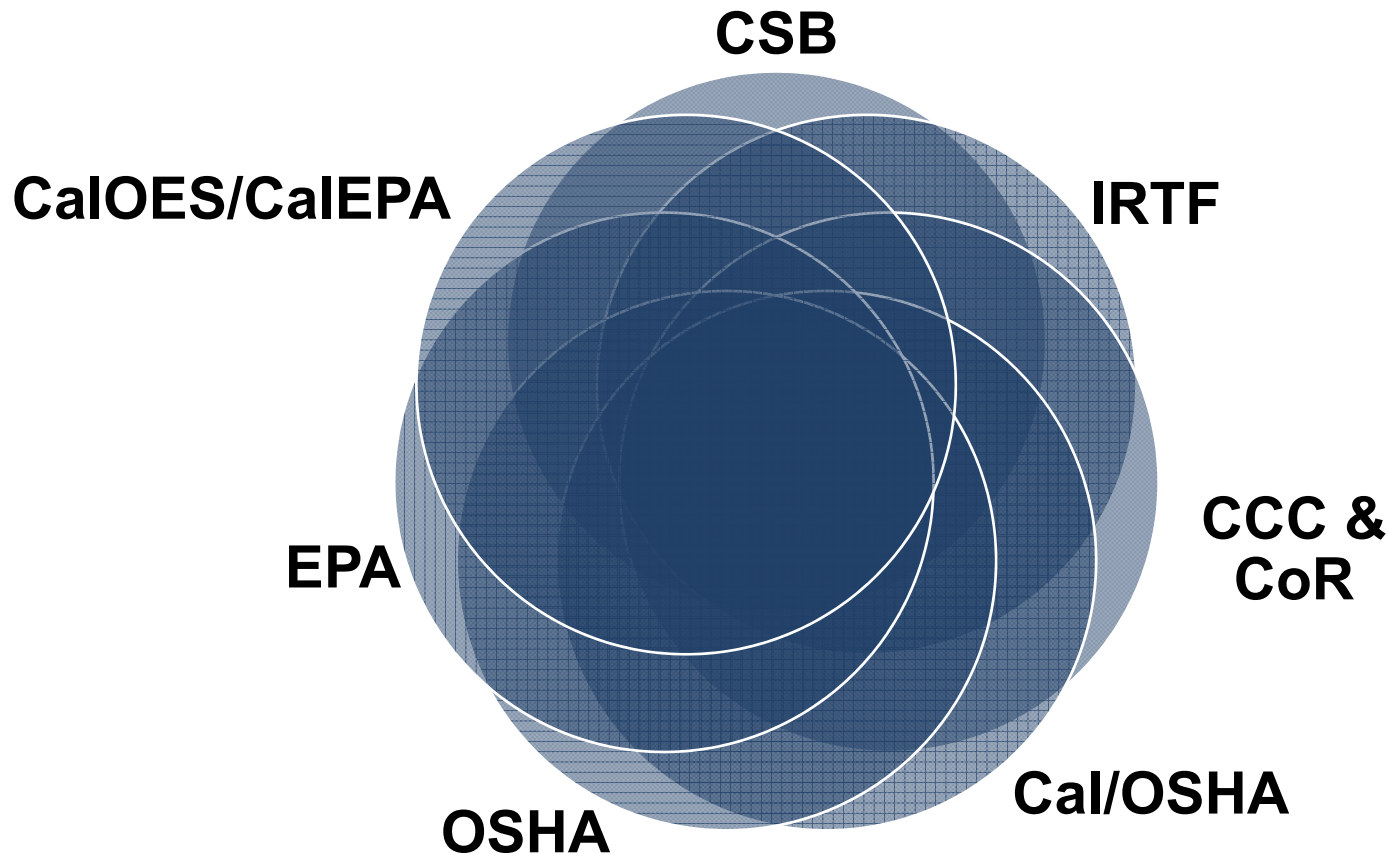
PSM

CalARP/RMP



Key Modernization Activities (Onshore Facilities)

www.RMPCorp.com/SMS_Regulatory_Updates/



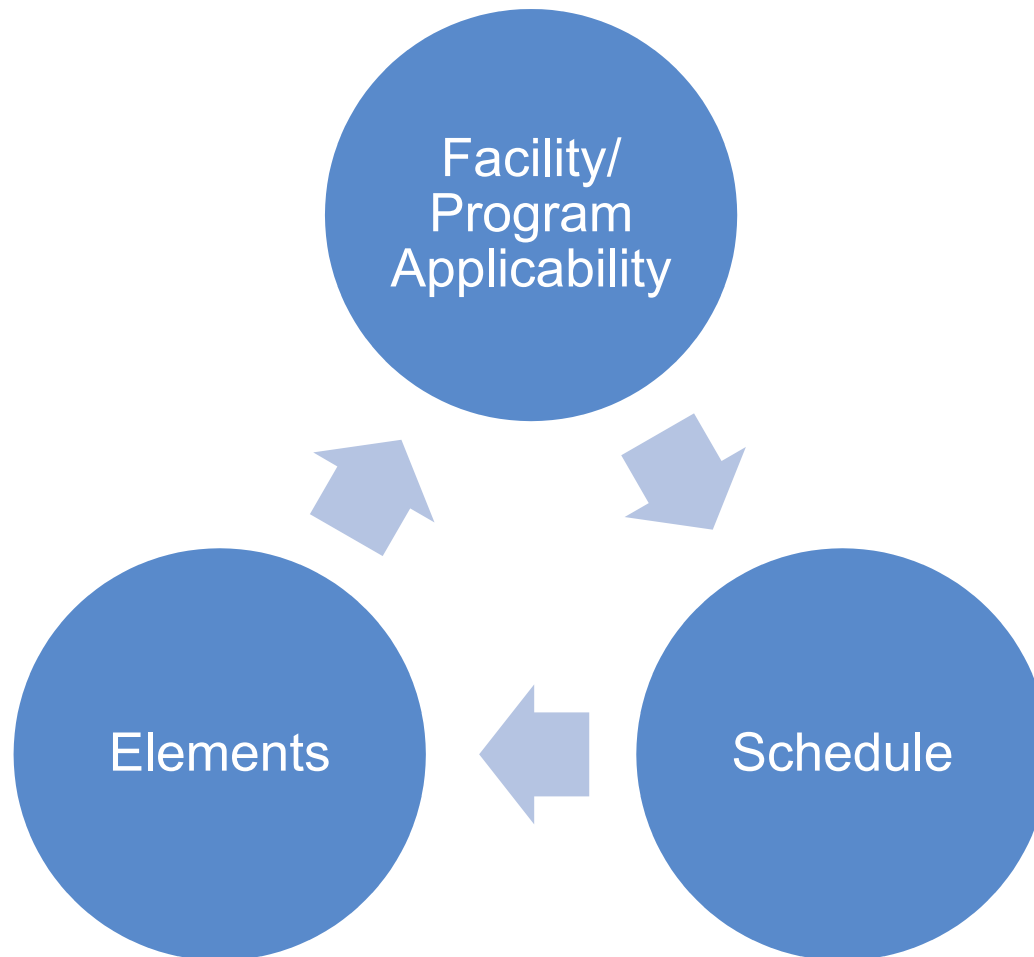
CalOES: California Office of Emergency Services; Cal/OSHA: California Occupational Safety & Health Administration; CSB: Chemical Safety Board; EPA: United States Environmental Protection Agency; IRTF: Interagency Refinery Task Force; OSHA: U.S. Occupational Safety & Health Administration; CalEPA: California Environmental Protection Agency; CCC: Contra Costa County; CoR: City of Richmond



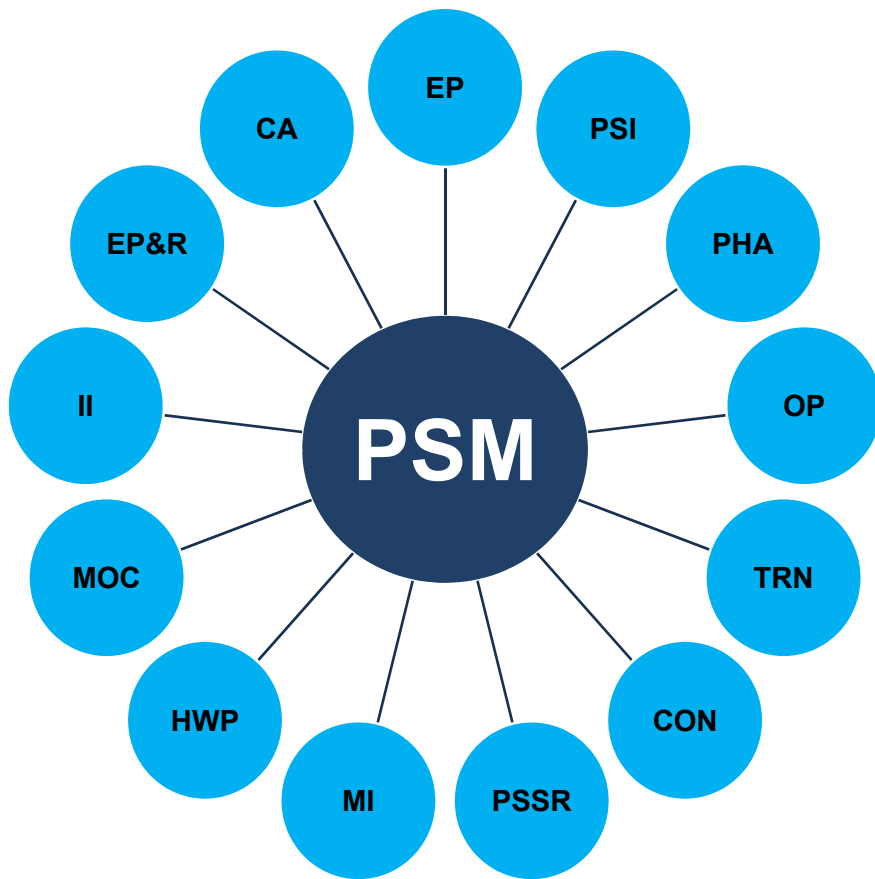
Addressing Key Elements of CalARP, CalPSM-R, & RMP Regulatory Expansion/Modernization Efforts (with Implementation Tips)



Types of Changes



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)

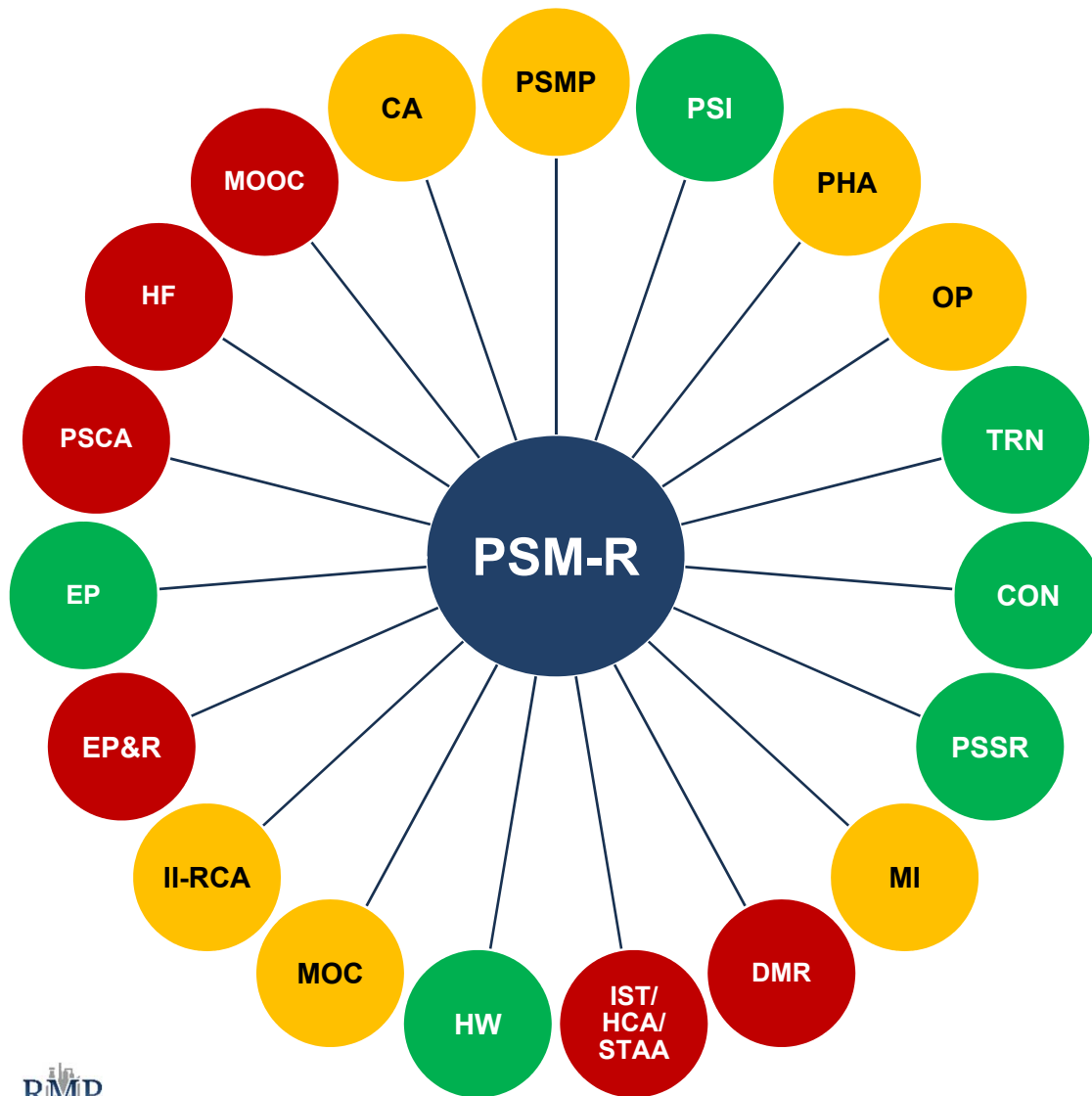


Impact Categories

- 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

Current Cal/OSHA, CalARP, & RMP Initiatives

Program Element	CalPSM-R (Draft)	CalARP (P4-Draft)	EPA-RMP (P2/3-Draft)
Process Safety Information (PSI) *	5189.1(d)	2762.1	68.65
Process Hazard Analysis (PHA) * Safeguard Protection Analysis (SPA) ** (CA-Only)	5189.1(e)	2762.2 2762.2.1	68.50/67
Operating Procedures (OP) **	5189.1(f)	2762.3	68.69
Training (TRN) *	5189.1(g)	2762.4	68.71
Contractors (CON) *	5189.1(h)	2762.12	68.87
Pre-Startup Safety Review (PSSR) *	5189.1(i)	2762.7	68.77
Mechanical Integrity (MI) * Damage Mechanism Review (DMR) *** (CA-Only)	5189.(j) 5189.1(k)	2762.5	68.73
IST / HCA / STAA ***	5189.1(l)	2762.13	68.67
Hot Work (HW) *	5189.1(m)	2762.11	68.85
Management of Change (MOC) **	5189.1(n)	2762.6	68.75
Incident Inv. – Root Cause Analysis (II-RCA) **	5189.1(o)	2762.9	68.81
Emergency Planning and Response (EP&R) ***	5189.1(p)	2765.2/3	68.95/96
Employee Participation (EP) *	5189.1(q)	2762.10	68.83
Process Safety Culture Assessment (PSCA) ***	5189.1(r)	2762.14	---
Human Factors (HF) ***	5189.1(s)	2762.15	---
Management of Organizational Change (MOOC) ***	5189.1(t)	2762.6	---
Compliance Audits (CA) ** (Fed Rqmt. for 3 rd Party)	5189.1(u)	2762.8	68.58/59/79/80
Process Safety Management Program (PSMP) **	5189.1(v,w)	2762.16	---



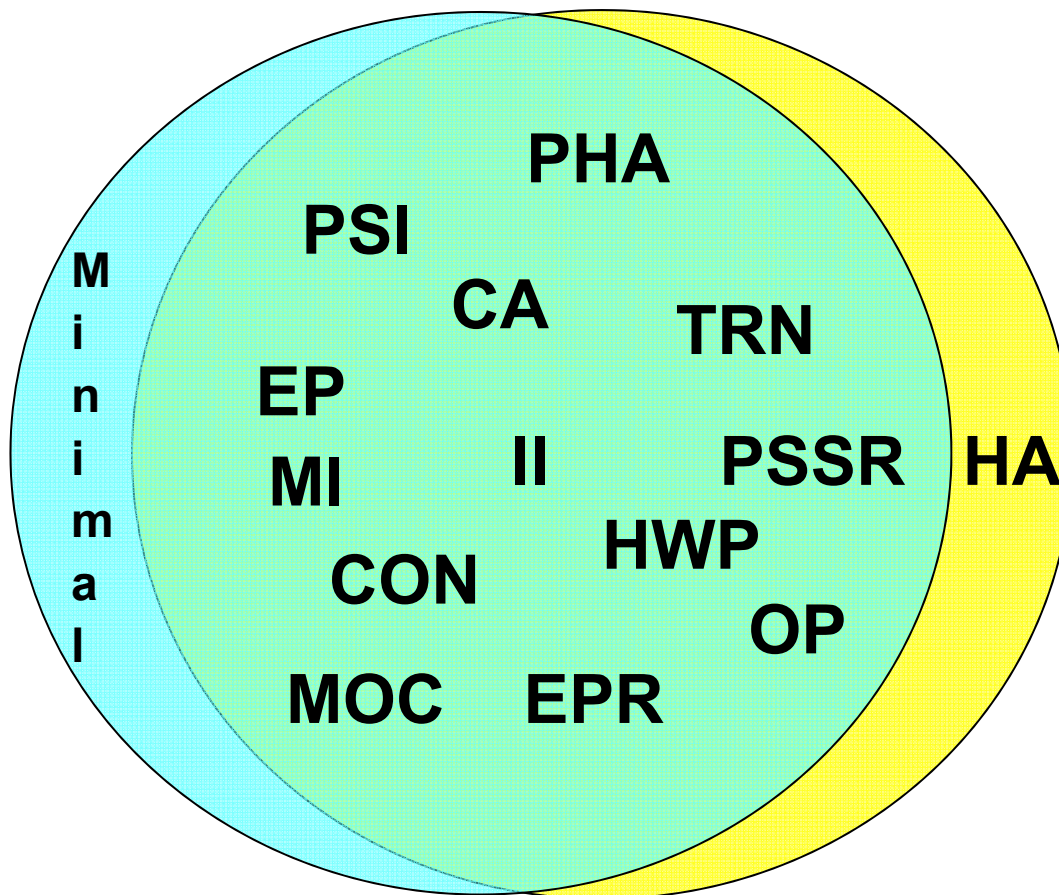
General Implementation Strategies & Resources



Overlap of Key Current CA SMS Programs (Onshore Facilities)

PSM

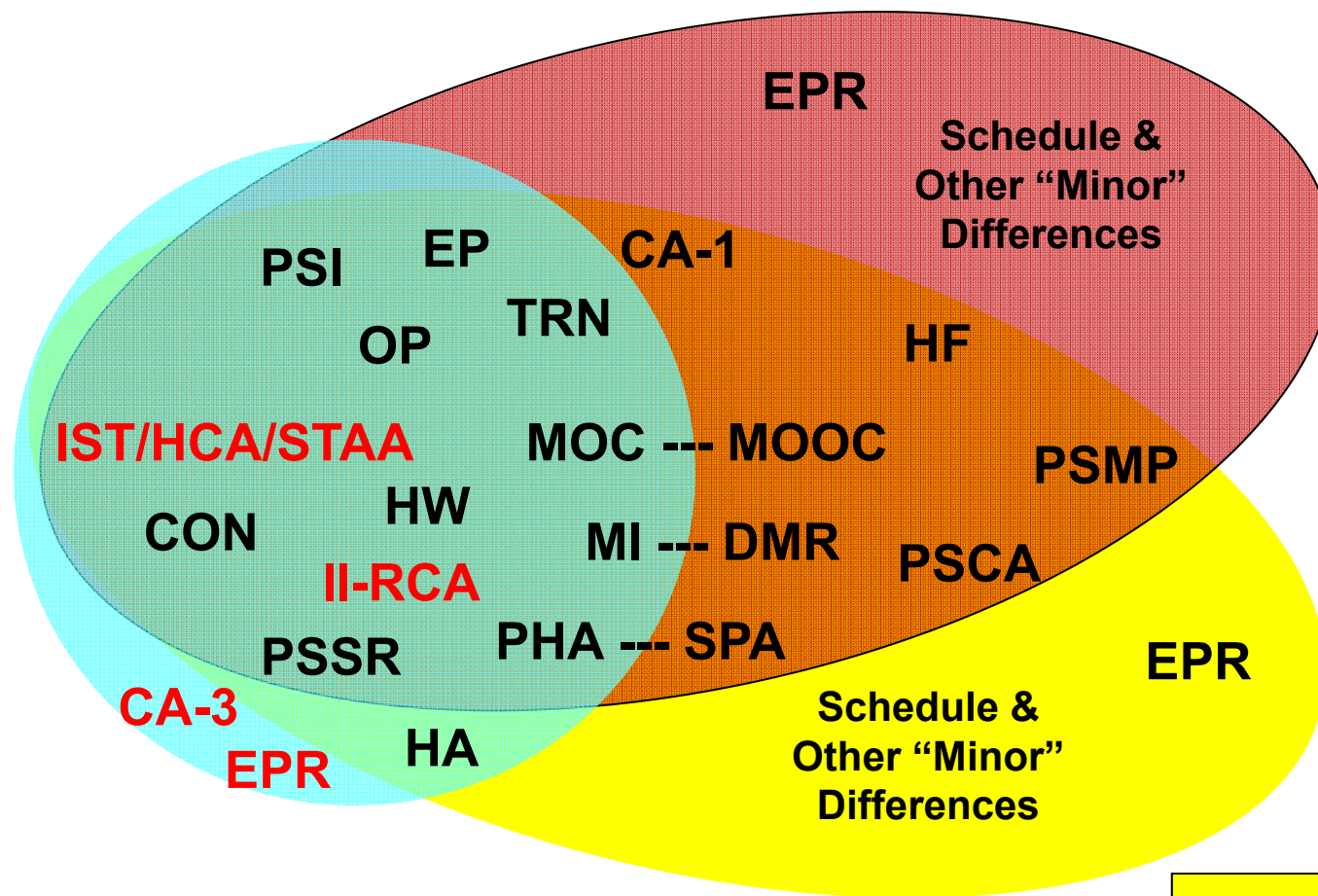
CaIARP/RMP



Overlap of Post-2016 CA SMS Programs (Onshore Petroleum Refineries)

Fed-RMP – Post 2016

CalPSM-R (5189.1)



CalARP



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.



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?

Aleksandar Metulev

Aleks.Metulev@RMPCorp.com

Michael Saura

Michael.Saura@RMPCorp.com

(949) 282-0123

(877) 532-0806

www.RMPCorp.com

