



**Occupational Safety
and Health Administration**

OSHA PROCESS SAFETY MANAGEMENT

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Regulator Universe

Who is covered

- **State and Local Government Workers** Employees who work for state and local governments are not covered by Federal OSHA, but have OSH Act protections if they work in a state that has an [OSHA-approved state program](#). Five additional states and one U.S. territory have OSHA approved plans that cover public sector employees only. This includes: Connecticut, Illinois, Maine, New Jersey, New York, and the Virgin Islands. Private sector workers in these four states and the Virgin Islands are covered by Federal OSHA.
- **Federal Government Workers** Federal agencies must have a safety and health program that meet the same standards as private employers. Although OSHA does not fine federal agencies, it does monitor federal agencies and responds to workers' complaints. The United States Postal Service (USPS) is covered by OSHA.



Regulator Universe

Who is covered

OSHA Jurisdiction

Region 7

- Private-Sector and Federal Employers in Kansas, Nebraska, Missouri.
- Within Iowa, Private and Public Sectors are covered by State Plan OSHA and Federal Employers are covered by Federal OSHA.



Regulator Universe

Who is not covered

- **Not covered by the OSH Act:**
- Self-employed;
- Immediate family members of farm employers that do not employ outside employees; and
- Workplace Hazards regulated by another Federal agency (for example, the Mine Safety and Health Administration, the Federal Aviation Administration, the Coast Guard).



How Does OSHA Schedule Inspections?

Programmed Inspections

- PSM Covered Chemical Facilities National Emphasis Program
- Other Emphasis Programs

Unprogrammed

- Referral from state/local agencies
- Media
- Incidents/ Accidents
- Complaints (Employee / General Public)



Process Safety Management (PSM) Enforcement Process Background

- A comprehensive analysis of a complex safety program that is dependent on each element of the standard...
- Performance Based and follows Recognized and Generally Accepted Good Engineering Practices (RAGAGEP)



Process Safety Management of Highly Hazardous Chemicals

Is meant to control and prevent the consequences from a release of toxic, reactive, flammable or explosive chemicals.

- Highly Hazardous Chemicals (**HHCs**) are found in Appendix A Of CPL 03-00-014, PSM Covered Chemical Facilities National Emphasis Program or
- Flammable liquids and gases **in process** above the Threshold Quantity (**TQ**) of 10,000 pounds.
- Manufacturing of explosives and pyrotechnics.



Covered Process

- Appendix A lists 137 chemicals
 - 11 chemicals with listed concentrations.
 - 126 chemicals with no listed concentrations.
 - 1 Percent Test - Total weight of the chemical in the process at a concentration of one percent or greater.
- Threshold Quantities (TQs) are always expressed in pounds and are found in Appendix A.
- A company may use, store, manufacture, handle or have on-site movement of the chemicals.
- A vessel or group of vessels that are interconnected are defined as a covered process.

OSHA 1910.119 Process Safety Management Fourteen Elements

**1910.119 (c)
Employee Participation**

- Establish a PSM Team
- Develop a Written Plan of Action
- Prioritize Goals
- Assign Responsibilities
- Have scheduled meetings

**1910.119 (d)
Process Safety Information**

- Maintain a Library for:
 - Manufacture's Data Reports
 - Maintenance Manuals
 - P&ID'S (Piping and Instrumentation Diagrams)
 - Codes and Standards, Block Flow Diagrams.

**1910.119 (e)
Process Hazard Analysis (PHA)**

Due Every Five-Years or if the Process Changes

**1910.119 (f)
Operating Procedures**

- Initial Start-up
- Normal Operations
- Temporary Operations
- Emergency Shutdowns and Operations
- Normal Shutdown
- Startup following shutdowns

**1910.119 (o)
Compliance Audits**

Required EVERY THREE-YEARS

The last two must be kept on file

**1910.119 (g)
Training of Personnel**

- Refresher PSM Training
- Operators In Operating Procedures
- Management of Change
- Contractors
- Emergency Response

**1910.119 (n)
Emergency Planning & Response**

- Off-Site Response
- On-Site Response
- Emergency Evacuation Posters
- Alarm Systems

**1910.119 (h)
Contractors**

PRE-QUALIFICATION
Review Safety Records, Employee Certifications and Insurance Records

Perform On-Site Safety Orientation
For Employers and Employees
Documentation

**1910.119 (m)
Incident Investigation**

Accidents and Near Misses MUST BE REPORTED
(Investigation within 48 Hours)
Make corrective actions to avoid future occurrences; you could save someone's life.

**1910.119 (l)
Management of Change**

Involves Plant Engineer, Safety Manager, Refrigeration Operators, and Maintenance
i.e. PSM TEAM

**1910.119 (k)
Hot Work Permit**

Be sure that CONTRACTORS are aware of your Hot Work Procedures prior to beginning work.

**1910.119 (j)
Mechanical Integrity Inspection and Testing**

"Following recognized and generally accepted good engineering practices"

- IIAR Bulletin 110
- API-510, Pressure Vessels
- API-570, Piping
- ASME Section VIII, Div. 1
- ASME B.31.5, Ammonia Piping
- ASHRAE 15, NBIC-65
- ASNT-TC-1A, Personnel Qualifications

**1910.119 (i)
Pre-Startup Review**

Must be performed prior to introducing new equipment to the system.

Operators Trained?
PHA Performed?
P&ID'S Up-dated?
i.e. Management of Change



RAGAGEP in CFR 1910.119 – PSM Enforcement

- Where REGAGEP is directly referenced in PSM Standard
 - (d)(3)(ii): Employers must document that all **equipment** in PSM-covered processes complies with RAGAGEP
 - (j)(4)(ii): **Inspections and tests** are performed regarding mechanical integrity requirements in accordance with RAGAGEP
 - (j)(4)(iii): **Inspections and test frequency** follows mfg. recommendations, good engineering practice, and more frequent if indicated by operating experience.

Definition of RAGAGEP

Center for Chemical Process Safety's (CCPS)
Guidelines or Mechanical Integrity Systems

“RAGAGEP are the basis for engineering, operation, or maintenance activities and are themselves based on established codes, standards, published technical reports or recommended practices (RP) or similar documents, RAGAGEP detail generally approved ways to perform specific engineering, inspection or mechanical integrity activities, such as fabricating a vessel, inspection a storage tank, or servicing a relief valve.”



Primary Sources of RAGAGEP

- Published and widely adopted codes
- Published consensus documents
- Published non-consensus document
 - Chlorine Institute’s “pamphlets”
- “Appropriate Internal Standards”
 - Does not imply that employers may disregard applicable published RAGAGEP
 - Must still represent “*recognized and generally accepted* good engineering practices.”

Enforcement Considerations

- Is the process covered by RAGAGEP sections of PSM
- Multiple RAGAGEP apply
 - All acceptable if are as protective
- Use of inapplicable RAGAGEP can result in poor hazard control and can be grounds for citations.
- If no RAGAGEP still expected to provide adequate protection - possible internal standards.

Enforcement Considerations

- Mechanical Integrity: Correct deficiencies before further use or assure safe operation in the interim
- Updated RAGAGEP
 - Does not mandate employer upgrade equipment
 - BUT... OSHA expects employer to address issues raised by or identified in update

Retail Exemption

29 CFR 1910.119(a)(2)(i)

- OSHA does not define Retail Trade in PSM standard
- Department of Commerce defines as
NAICS Sector 44-45 – Retail Trade

The Retail Trade sector comprises establishments engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise. The retailing process is the final step in the distribution of merchandise; retailers are, therefore, organized to sell merchandise in small quantities to the general public.



Retail Exemption 29 CFR Background

- In preamble of PSM standard states that chemicals in retail facilities are generally sold in small packages, containers, and allotments
- Later OSHA interpreted much more broadly – No relationship to OSHA’s original intent
 - The “50% test”
 - “End user”



PSM Retail Exemption Policy (07/21/2015)

OSHA has rescinded all prior policy documents, letters of interpretation, and memoranda related to the retail exemption and the 50 percent test. OSHA now interprets the retail facilities exemption in accord with its original intent, and in reference to the widely-accepted NAICS Manual:

Only facilities, or the portions of facilities, engaged in retail trade as defined by the current and any future updates to sectors 44 and 45 of the NAICS Manual may be afforded the retail exemption at 29 CFR 1910.119(a)(2)(i).



OSHA Standards Related to Process Safety, Hazardous Chemicals, Emergency Response

- **OSHA focuses its efforts to help improve safety at facilities handling hazardous chemicals using the following standards:**
 - Process Safety Management, 29 CFR 1910.119
 - Hazardous Waste Operations and Emergency Response, 1910.120
 - OSHA Hazard Communication Standard with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS), 1910.1200
 - Confined Spaces 29 CFR 1910.146
 - Emergency Action Plans 29 CFR 1910.38
 - Fire Prevention, 29 CFR Subpart L



Hazardous Waste and Emergency Response Operations OSHA Standard 1910.120

Emergency Response Plan (ERP) 1910.120(q)(2)

The emergency response plan must include the following elements:

- Pre-emergency planning and coordination with outside parties,
- Personnel roles, lines of authority, training, and communication,
- Emergency recognition and prevention,
- Safe distances and places of refuge,
- Site security and control,
- Evacuation routes and procedures,
- Decontamination,
- Emergency medical treatment and first aid,
- Emergency alerting and response procedures,
- Critique of response and follow-up, and
- PPE and emergency equipment



OSHA Standards for Emergency Planning

OSHA standards can interface with HAZWOPER depending on the specific hazards on the site and the work being performed. A few of these other standards may include:

Subpart E – Means of Egress

- 37. Means of egress
- 38. Employee emergency plans and fire prevention plans- Appendix Means of Egress

Subpart I – Personal Protective Equipment

- 132. Personal Protective Equipment
- 133. Eye and face protection
- 134. Respiratory protection
- 135. Head protection
- 136. Foot protection
- 138. Hand protection

Subpart J – Environmental Controls

- 146. Permit-required confined spaces
- 147. Control of hazardous energy sources

Subpart K – Medical and First Aid

- 151, Medical services and first aid

Subpart L – Fire Protection

- 146. 1910.155-156 Fire protection and fire brigades 1910.157-163 Fire suppression equipment
- 147. Fire detection systems
- 148. Employee alarm systems Appendices A-E of Subpart L



OSHA Hazardous Communication Standard (HSC)

29 CFR 1910.1200

On September 30, 2009 OSHA issued a proposed rule to align the OSHA Hazard Communication Standard (HCS) with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

- On March 20, 2012 OSHA issued the Final Rule aligning the HCS to the GHS.

•What you need to do and when:

- Chemical users:** Continue to update safety data sheets when new ones become available, provide training on the new label elements and update hazard communication programs if new hazards are identified.

- Chemical Producers:** Review hazard information for all chemicals produced or imported, classify chemicals according to the new classification criteria, and update labels and safety

Effective Completion Date	Requirement(s)	Who
December 1, 2013	Train employees on the new label elements and SDS format.	Employers
June 1, 2015*	Comply with all modified provisions of this final rule, except:	Chemical manufacturers, importers, distributors and employers
December 1, 2015	Distributors may ship products labeled by manufacturers under the old system until December 1, 2015.	
June 1, 2016	Update alternative workplace labeling and hazard communication program as necessary, and provide additional employee training for newly identified physical or health hazards.	Employers
Transition Period	Comply with either 29 CFR 1910.1200 (this final standard), or the current standard, or both.	All chemical manufacturers, importers, distributors and employers

New Enforcement Policy

07/21/2015 **PSM Retail Exemption Policy** (07/21/2015) [Posted to Public Site]

07/21/2015 PSM Retail Exemption Enforcement Delay Notice (07/21/2015) [Posted to Public Site]

06/08/2015 **PSM Covered Concentrations Policy** (06/08/2015) [Posted to Public Site]

05/11/2016 **PSM RAGAGEP Policy** [Posted to Public Site]



Questions?

Oh No! I'm out of time 😊



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