

Process Safety Management for Refineries

Pre-Public Hearing Overview

Chapter 296-67 WAC Safety standards for process safety management of highly hazardous chemicals

August 2023



Washington State Department of
Labor & Industries
Division of Occupational Safety and Health

Division of Occupational Safety and Health (DOSH)

Agenda for Today's Meeting

- Moment of silence
- Background
- Public hearing schedule
- Rulemaking timeline
- Proposed rule overview
- Question and answer on language in proposed rule
- Public hearing comments starting at 10:00 a.m.

Moment of Silence to Remember Fallen Workers

Background

- L&I adopted the Process Safety Management (PSM) rule in 1992 based on OSHA's rule.
- Catastrophic events at refineries in Washington in 1998 and 2010, and events in other states led to significant discussion about what could have been done to prevent them from happening.
- In 2015, L&I convened an PSM Refinery Advisory Committee with refineries and labor members to discuss the Chemical Safety Board Tesoro Explosion Report recommendations, PSM improvement efforts nationally and in other states, and industry best practices.
- In 2019, California adopted new rules for PSM specific for refineries following a chemical release and fire at a California refinery in 2012.
- L&I started the rulemaking process to update the PSM requirements specific to refineries in 2017, working with the advisory committee, other interested stakeholders, and focus groups to develop the proposed rule.

Public Hearing Schedule

- August 10, 2023 10:00 a.m.
 - Four Points Sheraton, Fairhaven Room, 714 Lakeway Dr. Bellingham WA 98229
- August 15, 2023, 1:30 p.m.
 - Virtual via Zoom
- August 16, 2023, 6:30 p.m.
 - Majestic Inn & Spa, 419 Commercial Ave, Anacortes WA 98221
- August 17, 2023, 10:00 a.m.
 - Four Points Sheraton, Fairhaven Room, 714 Lakeway Dr. Bellingham, WA 98229

Rulemaking Timeline

Process Safety Management

- CR-101 Preproposal filed August 22, 2017
- CR-102 Proposal filed June 21, 2023
- Public hearings held August 10, 15, 16 and 17, 2023
- Comment period ends 5:00 p.m. August 24, 2023
- CR-103 Rule adoption October 17, 2023
- Effective date November 17, 2023

Submit written comments to:

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FAX: (360)902-5619 – comments submitted by fax must be 10 pages or less.

Comments must be received by: 5:00 p.m. on August 24, 2023

DOSH Contact Information

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Link to PSM rulemaking page:

[Rulemaking Activity at L&I
\(wa.gov\)](#)

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Overview of Existing PSM Requirements

- Applies to employers with processes containing a threshold quantity of a highly hazardous chemical
- Performance-based standard with some specification elements
- Requires a management system with specific 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 and response
 - Compliance audits
 - Trade secrets

Overview of Proposed PSM Rule for Refineries

- Proposed rule adds a new part to the existing PSM rule that is specific to refineries
- Maintains the elements in the current PSM rule with updates to many element
- Adds new elements:
 - Process safety management program
 - Damage mechanism reviews
 - Management of organizational change
 - Process safety culture assessment
 - Human factors
 - Corrective actions
 - Safeguard protection analysis
 - Hierarchy of hazard controls analysis

Overview of Proposed PSM Rule for Refineries

- **Process safety management program element:** This section brings process safety to a higher level of an organization. The purpose of the PSM program is to oversee and coordinate the refinery's compliance with all elements of the proposed PSM section, in order to ensure compliance and continual improvement in all PSM elements.
- **Employee collaboration:** This section is an expansion and clarification of the current rule. Provides for employee collaboration throughout all PSM elements. A qualified operator will have the authority to stop work, and to take recommendations by employees of contractors who identify potential process safety hazards. All employees, including the employees of contractors will have the right to anonymously report perceived hazards.
- **Hazard analyses:**
 - **Safeguard protection analysis (SPA):** This additional analysis requires the employer to determine the overall and combined effectiveness of the safeguards for failure scenarios identified in the PHA. A SPA should address the identification of process safeguards including safety critical equipment and safety critical actions.
 - **Hierarchy of hazard controls analysis (HCA):** This analysis is a method of identifying and ranking safeguards to protect workers from hazards. They include elimination of the hazard, substitution, engineering controls, administrative controls, and PPE.

Overview of Proposed PSM Rule for Refineries

- **Contractors:** Contractors are afforded additional opportunities to report hazards; access operating procedures; attend prescriptive training prior to entering a refining facility; participate in incident investigations; and to have a role in process safety culture assessments.
- **Mechanical integrity:** This section has clarified expectations regarding temporary repairs and requirements once an equipment deficiency is discovered.
- **Damage mechanism review (DMR):** This new section clarifies that refinery employers must review process flow/piping and instrumentation diagrams, the identity of potential damage mechanisms, evaluate materials of construction, anticipate and mitigate the propagation of damage mechanisms; and to review operating parameters that may accelerate damage to process equipment.
- **Management of organizational change (MOOC):** Managing organizational changes can play an important role in process safety. For changes that exceed 90 days, a team must review any organizational factors including staffing levels and an increase in personnel responsibilities.
- **Emergency planning and response:** Washington State has directed the refinery employer to identify, plan, and document their hazardous materials release/fire mutual aid plan.

Overview of Proposed PSM Rule for Refineries

- **Incident Investigation – root cause analysis:** Utilize Root Cause Analysis when investigating any incident that results in, or could have reasonably resulted in, a process safety incident.
- **Process safety culture assessment (PSCA):** The purpose of a PSCA is to assess key elements of a refinery safety culture, identify strengths and weaknesses, implement corrective actions, and reassess progress. The proposed requirements establish a uniform PSCA performance standard for meeting this objective. The resulting information will form the basis for a refinery to improve its safety culture over time.
- **Human factors:** Staffing levels; complexity of tasks; length of time needed to complete tasks; level of training, experience and expertise of employees; human-machine and human-system interface; physical challenges of the work environment in which the task is performed; employee fatigue and other effects of shiftwork and overtime; communication systems; and the understandability and clarity of operating and maintenance procedures.
- **Corrective action program:** The purpose of this section is to establish standardized procedures and timelines for refinery employers to prioritize process safety recommendations and implement corrective actions. This provision also ensures that there is a process for tracking all recommendations, criteria for rejecting recommendations, and requirements to document completion of corrective actions.

Proposed Rule Language Q&A



Break to transition to public hearing

A chance to stretch your legs
and take a deep breath