



BLUEGREEN
ALLIANCE

October 17, 2018

Ms. Tari Enos, Administrative Regulations Analyst
Division of Occupational Safety & Health
Washington State Dept of Labor and Industries

Via email: psmcomments@lni.wa.gov

Memo #3: Written Comments on the Second Draft of Revisions to Chapter 296-XX WAC, *Process Safety Requirements for Petroleum Refineries*

Dear Ms. Enos,

On behalf of our organizations and members, we are pleased to offer comments on revisions to Chapter 296-67 WAC *Process Safety Management for Refineries*, Part A, Discussion Draft Round 2 of September 24, 2018 (“Draft”).

The revised Draft is substantially improved from the previous version. Though it does not include all of the changes we recommended, we believe it is now closer to meeting the objective of a practical, meaningful and legally enforceable PSM regulation: one that will better protect the safety and health of Washington workers, communities, and natural resources.

At the same time, the proposal continues to suffer from internal inconsistencies and technical errors that can, and must, be corrected if the regulation is to achieve this objective. We devote the remainder of this Memo to addressing these problem areas.

We will be glad to answer any questions regarding the changes we are recommending. Please contact Stephanie Celt of BlueGreen Alliance at stephaniec@bluegreenalliance.org to arrange for this.

Thank you again for your leadership in improving Washington’s PSM regulation. We support your efforts and stand ready to assist you and the Department in meeting this important objective.

Sincerely,

Charlotte Brody, Vice President, Health Initiatives	BlueGreen Alliance
Stephanie Celt, Washington Policy Coordinator	BlueGreen Alliance
Walter Cleve, Tesoro Anacortes Safety Rep	USW Local 12-591, AFL-CIO

Steve Garey, WA State Steering Committee

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- cc. Paulette Avalos, Senior Policy Advisor, Governor's Policy Office
- Andi Smith, Executive Director, External Relations, Governor's Office
- Anne Soiza, Assistant Director, Department of Labor and Industries
- Maggie Leland, Policy Director, Government Affairs and Policy Division, Department of Labor and Industries

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1) Purpose and Scope (p. 1)

Problem:

- The Draft retains the original PSM focus on “consequences” of process failures.

Rationale:

- In the process industries, the following framework of the AIChE is usually applied:
 - Risk = Hazard * Likelihood * Consequence.
- Focusing on “consequences” of process failures is contrary to the prevention focus of the PSM proposal, which requires refiners to correct process safety *hazards*.
- Preventing, eliminating and minimizing “hazards” is therefore consistent with the PSM proposal and with industry best practice.

Solution:

- Please amend the sentence to read as follows: *“This part contains requirements for the prevention, elimination, and minimization of process safety hazards in the petroleum refining industry.”*

2) Definition of Affected Employee (p. 1).

Problem:

- The Draft leaves out personnel who could be affected by process hazards, such as unit support engineers.

Rationale:

- The definition is intended to cover all employees who might be affected by an unsafe process condition.

Solution:

- Please add *“supporting employees”* as item “e” in the list of personnel.

3) Definition of Hazardous Chemical or Material (p. 2)

Problem:

- The Draft refers to “explosive “ and “reactive” chemicals, but definitions for these types of hazardous chemicals or materials are not included in the definitions subsection.

Rationale:

- The proposal introduces ambiguity by including definitions for “flammable” and “toxic” but omitting definitions for “explosive” and “reactive.”
- Without definitions, these latter two terms could be subject to misinterpretation in the implementation and enforcement of the PSM regulation.

Solution:

- Please insert the following definitions into the proposed regulation:
 - Explosive. See the definition of Explosive in WAC 296-901-14024, Appendix B
 - Reactive. See the definition of Reactive substance in WAC 296-901-14024, Appendix B.
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4) Definition of Human Factors (p. 2).

Problem:

- “Process safety” and “Health and safety” are included as separate items in the list of “human factors,” rather than in (c) as areas of activity that could be *affected* by “human and individual characteristics such as fatigue...”

Rationale:

- This is a simple structural correction in the paragraph and listing.

Solution:

- Please redraft so that (c) is consistent with the California language, as follows:
 - (c) Human and individual characteristics such as fatigue, that can affect job performance, process safety, or health and safety.
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5) Definition of Process (p. 5).

Problem:

- This definition is missing two key concepts that are part of the California PSM regulation:
 - Partial and unplanned shut-downs, and
 - Separate vessels.

Rationale:

- The Draft lists “partial and unplanned shut-downs” as a condition under which a Pre-Start Up Safety Review (PSSR) is required (page 24 at 1).
- The phrase “partial and unplanned shut-downs” therefore needs to be included in the definition of Process in order to be covered unambiguously by the PSM regulation.
- Partial and unplanned shut-downs can present unstable conditions and therefore warrant explicit coverage by the PSM regulation.
- Some employers have claimed that by isolating a vessel through the use of a blind, for example, a vessel is no longer considered “interconnected” and therefore should not be subject to PSM. For this reason, it’s necessary to include the reference to “separate vessels.”

Solution:

- Amend (i) to read: “Any equipment that is interconnected, including separate vessels, that could be involved in a potential release.”

- Add a new sentence to read: "*This definition includes processes under partial or unplanned shutdown.*"
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Definition of Process Safety Culture (p.5)

Problem:

- This definition needs to include the protection of communities and the environment, in addition to employees.

Rationale:

- Including communities and the environment is consistent with Appendix C of the WA PSM standard: "This standard as a whole is to aid employers in their efforts to prevent or mitigate episodic chemical releases that could lead to a catastrophe in the workplace and possibly to the surrounding community."
- Consideration for the safety of persons outside a plant is typically included in factors regarding the safety culture of the process industries. For example, the Baker Report (2007) (p. 10) on the Texas City explosion: "Given the importance of process safety to the well-being of a refinery workforce and the community in which a refinery is located, the Panel believes that it should use more stringent criteria, or effectively "raise the bar," in its evaluation of the process safety culture survey data."
- And: The Baker Report (2007) (p. 24): "Moreover, an organization with a strong safety culture does not lose sight of the fact that the stakeholders with the most to lose—their lives—are workers and members of the public living or working near hazardous operating units."
- And: The Baker Report (2007) (p. 294, Recommendation #4): "The relevant stakeholders include salaried, hourly, and contract employees; employee representatives; contractors; and where appropriate, members of the community in close proximity to BP's U.S. refineries."

Solution:

- Adopt the California language, which differs in the last words: "*...in order to ensure the protection of people and the environment.*"
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Definition of Process Safety Management (p. 6)

Problem:

- This definition needs to focus on ensuring the safety of processes, which protects workers, communities and the environment.

Rationale:

- AIChE defines PSM as a process-focused discipline. See *Risk Based Process Safety* (2007) (p. xliii): Process safety management is a “management system that is focused on prevention of, preparedness for, mitigation of, response to, and restoration from catastrophic releases of chemicals or energy from a process associated with a facility.”
- Federal OSHA includes the protection of “employees and others” in the objective of PSM. See OSHA 3133, *Process Safety Management Guidelines for Compliance* (1997): “The major objective of process safety management (PSM) of highly hazardous chemicals is to prevent unwanted releases of hazardous chemicals especially into locations that could expose employees and others to serious hazards.”
- By ensuring the safety of refinery processes, PSM under this definition protects the safety of employees, communities and the environment.

Solution:

- Replace the definition with the following: “The application of management systems to ensure the safety of petroleum refinery processes and equipment.”
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Definition of RAGAGEP (p. 6)

Problem:

- RAGAGEP is narrowly applied in the Draft.

Rationale:

- RAGAGEP represents industry best-practices that should be adopted at the earliest opportunity by facilities.
- The PSM proposal, however, limits explicit application of RAGAGEP to the PSI, Mechanical Integrity, Compliance Audits and Human Factors elements.
- RAGAGEP can and should be applied to nearly all PSM elements.

Solution:

- Insert the following text in the definition of RAGAGEP: “RAGAGEP shall apply to all processes, safety elements, and topics addressed in this Chapter, including where RAGAGEP is not stated explicitly. Any RAGAGEP that is stated as a recommendation (for example, by the use of “should” rather than “shall”) in a code, standard, technical report, or recommended practice may be deemed, at the discretion of the Division, to be a regulatory requirement subject to the provisions of this Chapter.”
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Definition of Serious Physical Harm (missing)

Problem:

- This definition is missing from the Draft; however, the phrase “serious physical harm” appears in the definition of Process Safety Hazard and in the Employee Collaboration element under Stop Work procedures and anonymous reporting of hazards.

Rationale:

- Without a definition, it is unclear what constitutes “serious physical harm.” This could lead to ambiguity in the interpretation and enforcement of the PSM standard.

Solution:

- Include the following definition: “Serious Physical Harm. As described in WAC 296-900-14010 under severity levels 1, 2, and 3 for injuries or illnesses associated with serious violations.”
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Employee Collaboration (p. 8)

Problem:

- Employee collaboration is required in the Process Safety Information (PSI) element, but PSI is not listed in the Employee Collaboration element under (1)(a)(i-viii). This could introduce ambiguity in the interpretation and enforcement of employee collaboration requirements regarding PSI.

Rationale:

- There is an important role for employee participation in the development and maintenance of process safety information.
- This role should be subject to the requirements of the Employee Collaboration element.

Solution:

- Insert the following text at (1)(a)(i): “Development and maintenance of process safety information (PSI).”
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Process Safety Information (p. 12)

Problem:

- The words “constructed” and “installed” are missing from the list of requirements in (8). The word “constructed” is missing in (9).
- These words appear in the same lists in the Mechanical Integrity element on p. 25 at (5)(a)(iii) and (5)(b).
- These words are included in the California PSM in the PSI and Mechanical Integrity elements.

Rationale:

- This represents an internal inconsistency that could result in ambiguity in interpretation and enforcement of the PSM standard.

- Ensuring proper construction and installation of process equipment is important in ensuring the safety of both new and existing equipment, especially in the absence of a RAGAGEP.

Solution:

- Add the following words to the existing text for (8) on page 12: “If the employer installs new process equipment for which no RAGAGEP exists, the employer must determine and document that the equipment is *properly constructed*, designed, *installed*, maintained, inspected, tested and operating in a safe manner.”
 - Add the following words to the existing text for (9) on page 12: “If existing process equipment was designed and constructed in accordance with codes, standards or practices that are no longer in general use, the employer must determine and document that the process equipment is *properly constructed*, designed, installed, maintained, inspected, tested and operating in a safe manner for its intended purpose.”
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Contractors (pp. 23-24)

Problem:

- The Draft is missing California text (from page 14 at (3)(C) pertaining to the implementation of safety and health procedures by contractor employees.

Rationale:

- In addition to requiring effective training and a means of ensuring that contractor employees understood the training, the actual application of safety and procedures on the job is important to process and employee safety, and is an indicator of the contractor’s safety culture.
- Effective application of safety and health procedures on the job is relevant to the requirements of (1) on page 23 of the Draft, pertaining to the selection of contractors.

Solution:

- Insert the following California PSM text at (3)(d) on page 24: “The contractor shall ensure that each of its employees understands and follows the safety and health procedures of the refinery employer and the contractor.”
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Mechanical Integrity (p. 26)

Problem:

- The syntax and use of words in each of the sentences in (4)(a) is flawed, making them difficult to interpret.
- The sentences appear to allow refinery employers to make temporary repairs and leave those repairs in place indefinitely once the employer determines that the repairs “ensure safe operation.”

- The final sentence of (4)(a) appears to allow for a failure of a temporary failure to occur as an expected, or possible, outcome of the employer’s mechanical integrity program.
- Failure of a temporary repair could result in death or serious physical harm to employees.

Rationale:

- Syntax and word problems introduce ambiguity into the interpretation and enforcement of the PSM standard.
- Allowing for employer discretion in making temporary repairs on deficient process equipment that is operating “outside of acceptable limits” is inconsistent with the principles of PSM and should not be included in a regulation.
- Using language that anticipates a process equipment failure due to the employer’s use of temporary repairs is inconsistent with RAGAGEP and should not be included in a PSM regulation.

Solution:

- Replace (4)(a) with the following adaption of California text from page 16 (3)(A), Equipment Deficiencies: “The employer must correct deficiencies to ensure safe operation of process equipment. Repair methodologies must be consistent with RAGAGEP or more protective internal practices.”

Trade Secrets (p. 35)

Problem:

- By allowing employers to claim a trade secret for most PSM information, paragraph (1) is inconsistent with the requirements of the Employee Collaboration element (at page 8) and with each of the PSM elements, which require effective employee collaboration throughout all phases of “development, training, implementation and maintenance.”
- For example, the Employee Collaboration element at (1)(a) requires “effective collaboration by affected operating and maintenance employees, throughout all phases, in performing:
 - (i) Process hazard analyses (PHAs)
 - (ii) Damage mechanism reviews (DMRs)
 - (iii) Hierarchy of hazard controls analyses (HCAs)
 - (iv) Change management (MOC and MOOC)
 - (v) Process safety culture assessment (PSCAs)
 - (vi) Incident investigations
 - (vii) Safeguard protection analyses (SPAs) and
 - (viii) Process safety startup reviews (PSSRs).”
- The Trade Secrets element would allow the employer to claim a trade secret and withhold information on all the PSM elements listed above, with the exception of:
 - (i) PSI
 - (ii) PHAs
 - (iii) Operating procedures
 - (iv) Incident investigations

- (v) Emergency planning and response, and
- (vi) Compliance audits

- This internal contradiction opens the PSM standard to conflict in the interpretation and application of employee collaboration requirements. These requirements provide for important employee rights and authorities that underpin each of the PSM elements.

Rationale:

- Effective employee collaboration is recognized by the American Institute of Chemical Engineers (AIChE) and by the U.S. CSB as an essential component of an effective risk-based PSM program.
- Employees and their representatives are only able to participate meaningfully, however, if they are provided with the information necessary to do so.
- Because the Trade Secrets element allows employers to withhold information from employees and their representatives by making trade secrets claims, this element undermines, and is inconsistent with, the employee collaboration requirements of the PSM standard.

Solution:

- Delete paragraph (1).
 - Move paragraph (2) to the Employee Collaboration element, which is consistent with the California PSM standard.
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Throughout the Draft.

Problem:

- There is inconsistent use of the following terms:
 - Chapter
 - Section
 - Part
 - Subsection

Rationale:

- Inconsistent use of these terms could lead to ambiguity in interpretation and enforcement.

Solution:

- Clarify what is meant by each of these terms and apply them carefully and consistently throughout the document.
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