CONCISE EXPLANATORY STATEMENT (CES)

Process Safety Management (PSM)
Chapter 296-67 WAC, Safety standards for process safety management of highly hazardous chemicals
Public Hearings: August 10, 15, 16 and 17, 2023
Adoption: December 27, 2023
Effective: December 27, 2024

Table of Contents

I. Purpose of Rulemaking

A. Background

The need for such changes stems from previous incidents at petroleum refineries in the state of Washington. In 2010, seven workers lost their lives at the Tesoro refinery in Anacortes when a heat exchanger used in the refining process exploded. Two other incidents in 1998 at the Equilon refinery in Anacortes and Advanced Silicon Materials in Moses Lake claimed the lives of eight workers.

The current PSM standard requires employers to implement safety programs that identify, evaluate, and control these hazards; however, different to many safety standards, PSM was developed as a "performance-based" standard. Rather than prescribing precisely what employers must do to comply, the standard outlined the key elements of PSM programs, and gave employers the flexibility to tailor their safety programs to the unique conditions at their facilities. The State of Washington adopted a state plan version of the PSM rule effective September 10, 1992. The current rule has not been updated in almost 30 years, does not reflect industry best practices, and is not sufficient to protect workers in refining and other related processes.

California and their division of occupational safety and health (Cal/OSHA) recently implemented new rules for process safety management for oil refineries. The Department of Labor & Industries' Division of Occupational Safety and Health (DOSH) worked with Cal/OSHA and local Washington refineries, among other stakeholders, to create similar regulations for process safety management in oil refineries for those in the State of Washington. These changes are needed to ensure that employers and employees are safe while working in the refineries as processes and technology in the industry advance over time.

The adopted rule created a new part—WAC 296-67 Part B—that applies specifically to petroleum refineries. Part B replicates and updates many of the sections from the current PSM rule, and expands the application of the PSM standards.

B. Summary of the rulemaking activities

Both business and labor were represented during this rulemaking process, which started in 2017. After a few initial meetings, rule-drafting meetings started in winter of 2018. We met twice a month through April 2018, and each meeting consisted of going through the draft language and getting input from stakeholders.

Labor & Industries (L&I) held two focus groups in Bellingham in the summer of 2018 for employees of refineries that were interested in providing comments and feedback on the draft and ensure their voices were being heard. Members of DOSH also traveled to California to meet with the team from Cal/OSHA that drafted and implemented the California PSM rules.

DOSH used the provided comments from round one of the drafting process to update the draft through the summer of 2018, and once a second draft was completed in fall of 2018, a second round of stakeholder meetings occurred October-December 2018. The draft language for the proposed rule was created based on all comments received.

In 2019, L&I spent time internally revising draft language, as well as creating the Cost Benefit Analysis (CBA). To gain more information for the CBA, L&I created an Economic Survey to estimate both new costs and benefits which may be incurred due to the new and amended requirements being proposed in the PSM rule, and sent it to refineries affected by the rule.

L&I met with stakeholders multiple times throughout January-May 2023 to review the draft language and incorporated some of their comments in the final draft language.

II. Changes to the Rules (Proposed rule versus rule adopted)

WAC 296-67-307 Definitions.

- **Employee representative**. Updated definition to include that an employee representative must be “on-site”.
- **Major change**. Removed subsection (d) from the definition.
- **Nonroutine**. Removed this definition and placed this language in WAC 296-67-327(1)(a)(viii) and also renumbered all definitions after it. This is to ensure the rule is clear and having the term defined in the applicable section will reduce the need for a separate definition section to be referenced when trying to understand the rule.
- **Process**. Updated definition to include “transfer using” before “piping” to provide clarity on what activities are included in a process.
- **Qualified operator**. Updated to provide clarity on what training requirements must be met to be a qualified operated by adding a reference to WAC 296-67-331.
- **RAGAGEP**. Removed “The employer should also consider informative sources of industry practices as appropriate” from the definition. This change is consistent with Cal/OSHA’s PSM refinery rule.

WAC 296-67-319 Process safety information.

- Removed “implement” from subsection (1). This change is consistent with Cal/OSHA’s PSM refinery rule.
- Removed language cross-referencing the employee collaboration section of the rule to streamline the rule and remove repetitive language.

WAC 296-67-323 Hazard analyses.

- Removed language cross-referencing the employee collaboration section of the rule to streamline the rule and remove repetitive language.

WAC 296-67-327 Operating procedures.

- To provide clarity updated language regarding “nonroutine work” to “Any other operating condition not described in subsection (1)(a) of this section.”
- Removed language cross-referencing the employee collaboration section of the rule to streamline the rule and remove repetitive language.

WAC 296-67-331 Training.

- Removed “including employees of contractors” from subsection (1) since contractors have their own training section. This change is consistent with Cal/OSHA’s PSM refinery rule. Also added a reference to WAC 296-67-327.
- Added “affected” before “employees of contractors” in subsection (1)(b) for consistency throughout the rule.
- Removed language cross-referencing the employee collaboration section of the rule to streamline the rule and remove repetitive language.

WAC 296-67-335 Contractors.

- Removed subsection (2)(a) and adjusted numbering of the subsections under (2). This change is consistent with Cal/OSHA’s PSM refinery rule. Added a reference to chapter 296-71 WAC.
- Removed “and procedures” from subsection (3)(a)(ii). This change is consistent with Cal/OSHA’s PSM refinery rule.
- Removed language cross-referencing the employee collaboration section of the rule to streamline the rule and remove repetitive language.

WAC 296-67-339 Pre-startup safety review.

- Removed language cross-referencing the employee collaboration section of the rule to streamline the rule and remove repetitive language.

WAC 296-67-343 Mechanical integrity.

- Added the word “affected” in front of “employees of contractors” in subsection (1)(c) for consistency throughout the rule.
- Updated language regarding timing of inspections and tests of equipment. This change is consistent with Cal/OSHA’s PSM refinery rule.
- Added “including certification, when applicable” to provide clarity that documentation required under the rule includes certifications.
- Updated language regarding temporary repairs by consolidating subsections to provide clarity and streamline the rule.
- Removed language cross-referencing the employee collaboration section of the rule to streamline the rule and remove repetitive language.

WAC 296-67-347 Damage mechanism review.

- Updated “contractor employees” to “affected employees of a contractor” in subsection (12) for consistency throughout the rule.
- Removed language cross-referencing the employee collaboration section of the rule to streamline the rule and remove repetitive language. Renumbered remaining subsection.

WAC 296-67-351 Hot work.

- Removed language cross-referencing the employee collaboration section of the rule to streamline the rule and remove repetitive language.

WAC 296-67-355 Management of change.

- Removed language cross-referencing the employee collaboration section of the rule to streamline the rule and remove repetitive language.

WAC 296-67-359 Management of organizational change.

- Removed language cross-referencing the employee collaboration section of the rule to streamline the rule and remove repetitive language.

WAC 296-67-363 Incident investigation – Root cause analysis.

- Removed language cross-referencing the employee collaboration section of the rule to streamline the rule and remove repetitive language.

WAC 296-67-367 Emergency planning and response.

- Removed language cross-referencing the employee collaboration section of the rule to streamline the rule and remove repetitive language.

WAC 296-67-371 Compliance audits.

- Removed language cross-referencing the employee collaboration section of the rule to streamline the rule and remove repetitive language.

WAC 296-67-375 Process safety culture assessment.

- Removed language cross-referencing the employee collaboration section of the rule to streamline the rule and remove repetitive language.

WAC 296-67-379 Human factors.

- Removed “in that, at a minimum, represents industry RAGAGEP relevant to” to ensure clarity. This change is consistent with Cal/OSHA’s PSM refinery rule.

- Replaced “as relevant” with a cross-reference to WAC 296-67-315 to provide clarity. This change is consistent with Cal/OSHA’s PSM refinery rule.
- Removed language cross-referencing the employee collaboration section of the rule to streamline the rule and remove repetitive language.

WAC 296-67-383 Corrective action program.

- Added cross-reference to WAC 296-67-355 to provide clarity on the standard that needs to be met. This change is consistent with Cal/OSHA’s PSM refinery rule.
- Removed language cross-referencing the employee collaboration section of the rule to streamline the rule and remove repetitive language.

WAC 296-67-387 Trade secrets.

- Added “all requirements contained in” before Part B in subsection (1), and removed “pursuant to WAC 296-901-14018 Trade secrets” from the end of the subsection to provide clarity.

III. Comments on Proposed Rule

A. Comment Period

The comment period for this rulemaking was open from June 21, 2023, when the CR-102 (proposed rulemaking) was filed, through 5:00 p.m. on August 24, 2023. A total of 1,071 written comments were received.

1. Public Hearings

Date	Time	Location	Attendance	Testified
August 10, 2023	10:00 a.m.	Four Points Sheraton, Bellingham	19 people	7 people
August 15, 2023	1:30 p.m.	Virtual via Zoom	44 people	5 people
August 16, 2023	6:30 p.m.	Majestic Inn and Spa, Anacortes	29 people	16 people
August 17, 2023	10:00 a.m.	Four Points Sheraton, Bellingham	17 people	6 people

2. Summary of Comments Received and L&I's Responses

Below is a summary of the comments L&I received and the responses. Comments received are summarized by WAC section in order to provide clarity for response, and not a verbatim account of each individual comment.

Comment	Responses
WAC 296-67-300 Purpose and scope—Part B.	
The proposed PSM rule expands PSM applicability to include new processes regardless of the quantity of hazardous chemicals present. Such a change would shift the focus of PSM in Washington away from preventing catastrophic incidents and towards compliance with regulations intended to address lower-risk safety issues. Not every process in a refinery has the potential for a catastrophic release, and there are processes that "involve" a highly hazardous chemical but at such low quantities that there is an extremely low, or nearly non-existent, risk of catastrophic release. By expanding the PSM program to previously un-regulated processes, safety focus and safety resources could be misapplied. A problem with a cooling water fan is unlikely to contribute to a process safety incident. Loss of cooling water may need to be considered in a process PHA, but that does not mean that everything associated with the cooling water tower need be covered in this regulation.	The comment asks for the applicability of the rule to be limited to chemicals found in Appendix A of the current standard. The appendix is not inclusive of all chemicals that relate to a process or unit, and in order to achieve the safety level desired, the rule needs to apply to all processes, as defined in the adopted rule. In the example provided, the failure of the cooling tower to discharge cool process water could cause the failure and release in the processes that it serves, which makes that equipment fall under the rule, including the current rule.
The expanded applicability of PSM to low-risk processes violates RCW 34.05.328(1)(i), as L&I is required to coordinate amendments "to the maximum extent possible" with the federal PSM Standard. We'd like the proposed PSM rule to be revised and include threshold quantities of hazardous chemicals in the rule's applicability section to ensure PSM's focus remains on preventing catastrophic accidents and not risk diverting necessary compliance resources to low-risk processes. The expansion of the rule, as drafted, is not narrowly tailored to achieve the goals of preventing and minimizing the consequences of catastrophic release.	The Washington Industrial Safety and Health Act (WISHA) under chapter 49.17 RCW directs L&I to adopt safety and health standards for conditions of employment, and specifically requires L&I "provide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning gases, vapors, dust, or other airborne particles, toxic materials, or harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity….." As discussed in the Cost Benefit Analysis, L&I based this rulemaking on the best available evidence.

	The federal OSHA PSM regulation does not apply to Washington employers, L&I rules do. L&I also has authority to have standards that are more stringent than federal standards unless a federal law preempts a state from taking that type of action. However, L&I followed the APA's requirement to "coordinate [a] rule, to the maximum extent practicable, with other federal, state, and local laws applicable to the same activity or subject matter" where appropriate in light of the mandate under WISHA. L&I did so by coordinating and conferring with Cal/OSHA, reviewing federal OSHA standards and EPA standards related to highly hazardous chemicals and process safety standards. Additionally, L&I reviewed industry best practices in developing the adopted rule. While the purpose of OSHA's and DOSH's current PSM rules are preventing and minimizing the consequences of catastrophic release, the purpose and scope of this rule is to reduce the risk of process safety incidents by eliminating or minimizing process safety hazards to which employees may be exposed. A process safety hazard is a hazard of a process that has the potential for causing a process safety incident, or death or serious physical harm. L&I defines serious physical harm includes: death; injuries involving permanent disability; chronic, irreversible illness; disability of a limited nature; injuries or reversible illnesses resulting in hospitalization; injuries or temporary, reversible illnesses resulting in serious physical harm; and injuries and illness that may require removal from exposure or supportive treatment without hospitalization for recovery. (WAC 296-900-10140). As such, this rule takes a more protective approach consistent with L&I's authority and direction under WISHA.
WAC 296-67-307 Definitions.	
The proposed PSM rule contains vague and confusing definitions, either by their own terms or in conflict with federal and other states' process safety standards, as well as industry-consensus standards (e.g., American Petroleum Institute ("API") Standards, Recommended Practices, and Fact Sheets). Precise regulatory language is necessary to ensure effective implementation of complex programs, such as PSM. Courts have long held that regulated entities are required to be put on notice as to what activity will violate a health and safety standard. The following definitions are improperly vague and	L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. This includes the development of definitions.

unreasonable, based on Supreme Court precedent, because they are "so indefinite that men of common intelligence must necessarily guess at its meaning and differ as to its application" and should be revised to comply with the APA. Creating new, novel PSM definitions will create confusion and uncertainty that could diminish process safety in Washington—the opposite effect L&I's proposed rules should accomplish. Thus, at a minimum, the definitions Employee representative, major change, leading and lagging indicators and non routine should be removed or revised.	L&I reviewed and used various regulations and industry trade association and literary sources in creating the definitions used in the adopted rule. Definitions are intended to ensure the language used in the rule is clear and understandable to make the standard easier to comply with.
Covered process is used in the original WAC rule. Providing a specific definition for "covered process" provides additional clarity for use within the rule. We have asked that WAC 296-67-300 be the same as 296-67-001. Anywhere the word process is listed in the adopted language, the word "covered" should be inserted before it. We note that adding the word "covered" appropriately limits management of change to changes affecting processes covered by the Application Section (WAC 296-67-001). Additionally, training prior to start-up of a change is well understood. Implementation of a change could be interpreted to be construction.	The term "covered" was intentionally removed from the proposed and adopted standard and was discussed throughout stakeholdering of the rule. The intent of the adopted rule is to improve safety in Washington refineries. Making a distinction between covered and not covered processes does not add nor provide additional safety for refinery workers.
We appreciate L&I's efforts to edit this definition. We believe this is a very critical role and that we are getting closer to a definition that works. We feels strongly that the Employee Representative needs to be an employee, on site, and qualified. We support the inclusion of the last sentence making it clear that this representative may work with someone from the union who is not on site. We feel strongly that the employee representative needs to be an employee and requests that the definition does not include "contractor." That will better assure that the employee representative is familiar with site-related process safety issues and work processes and better able to constructively participate in PSM activities under this standard.	Thank you for your comment. The adopted rule was amended to include the term "on-site" as follows: (5) **Employee representative.** A union representative, where a union exists, or an employee-designated representative in the absence of a union. The employee representative must be <u>on-site</u> and qualified for the task. The term is to be construed broadly, and may include the local union, the international union, or a refinery or contract employee designated by these parties, such as the safety and health committee representative, where the person works on-site at the refinery. Employee representative may partner with an employee representative who does not work on-site when designated by the union, employees in the absence of the union, or when their participation is requested by the employee representative.

Employee representative. The authority for collective bargaining agents to select employees for participation in an employer program is typically the result of collective bargaining negotiations and not rulemaking. We proposed to clarify the rule to avoid interfering or coming into conflict with any collective bargaining agreements. Additionally, the employee collaboration requirements contained in the Proposed Rule are likely preempted by federal labor law. Requiring employers in non-unionized workplaces to consider and respond to recommendations regarding safety issues made by employee representatives would require employers to violate Section 8(a)(2) of the National Labor Relations Act. Employee safety proposals and recommendations are a mandatory subject of bargaining, and thus requiring employee representatives to participate in the type of bilateral engagement required by the employee collaboration provisions would be inconsistent with and preempted by federal labor law.	The authority of the proposed rule comes from chapter 49.17 RCW, Washington Industrial Safety and Health Act. The purpose of chapter 49.17 RCW is to "ensure safe and healthful working conditions" for individuals working Washington. Furthermore, the purpose of chapter 49.17 RCW is to "create, maintain, continue, and enhance the industrial safety and health program of the state, which program shall equal or exceed the standards prescribed by the Occupational Safety and Health Act of 1970." Regulating Washington state employment conditions related to occupational safety and health is within the mandate of the Washington Industrial Safety and Health Act. The intent of the proposed WAC 296-67 is not to interfere with the relationship between the Employer and Employee Representative. WAC 296-67-307(7)'s definition of "employee representative" allows for "an employee-designated representative in the absence of a union." The definition also recognizes an "employee representative as being a "union representative, where a union exists." Therefore, in workplaces that do not have unions, an employee-designated representative could effectuate proposed WAC 296-67's requirements.
Employee Representative. We request that the definition does not include *"contractor."* That will better assure that the employee representative is familiar with site-related process safety issues and work processes and better able to constructively participate in PSM activities under this standard.	Contractors need to be included in the definition because they perform their work within and around processes; much of which is specialized. They are a critical part of facility operations, and can provide meaningful assistance during investigations and other areas in the rule as written.
Flammable Gas and Flammable liquid. We recommend reverting back to the original Application Section 296-67-001 (2). Flammable gases are already defined within WAC 296-67-001(2)(a)(ii).	Part B was created to apply to refineries only, and replicates many parts of the current PSM rule. The definitions of flammable gas and liquid are consistent with WAC 296-67-001(2)(a)(ii) and with definitions in WAC 296-901-14006 which mirrors the adopted definition for flammable gas and flammable liquid with the exemption of the threshold quantities under WAC 296-67-001(2)(a)(ii). Part B is newly created and has its own definition section that needs to include flammable gasses and liquids, as those terms are used throughout the rule and apply to any uses of the chemicals or materials meeting the definition not just at certain threshold quantities.
Hierarchy of Hazard Controls. Hazard prevention and control measures, in a preferred order, to eliminate or minimize a hazard. Hazard prevention and	L&I will not be making the suggested change to the definition. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible. As four of the petroleum refineries that

control measures ranked from most effective to least effective are: First order inherent safety, second order inherent safety, and passive, active and procedural protection layers. We believe many factors influence the selection of a particular hazard prevention, control, or mitigation measure with Hierarchy of hazard controls being one of them. The hierarchy represents a preferred (not prescribed) order as it relates to the inherent reliability of the specific hazard prevention, control, or mitigation measure. Measures with different inherent reliability can be equally effective at reducing risk. The rule should allow for making recommendations outside of the preferred order when unintended consequences are created elsewhere at the refinery by implementing measures in the prescribed order.	operate in both California also operate in Washington, it was a priority to implement similar rules. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
We believe that the original WAC language appropriately and correctly tied the definition of highly hazardous chemical to the Applicability Section. Without that, the proposed definition includes all materials with any degree of toxicity, reactivity, or flammability, and in any quantity, without being tied to the potential for a process safety incident. Broadening the definition of "highly hazardous chemical or material" as represented by the Proposed Rule dilutes the focus on process safety.	The definition in the adopted rule is for "Highly hazardous chemical or material." Globally Harmonized System for chemical hazards (GHS) rule is defined as "a flammable liquid or flammable gas, or a toxic or reactive substance." Definitions are added for: • "Flammable liquid" and "Flammable gas" which are consistent with definitions in the current PSM rule except for reference to quantities. • "Reactive substance" which is limited to a self-reactive chemical, as defined in L&I's Globally Harmonized System for chemical hazards (GHS) rule under WAC 296-901-14024 Appendix B as "thermally unstable liquid or solid chemicals liable to undergo a strongly exothermic decomposition even without participation of oxygen (air). This definition excludes chemicals classified under this section as explosives, organic peroxides, oxidizing liquids or oxidizing solids…regarded as possessing explosive properties when in laboratory testing the formulation is liable to detonate, to deflagrate rapidly or to show a violent effect when heated under confinement." This definition does not include quantities, it does apply to a specific degree of reactivity. • "Toxic substance" which is limited to acute toxicity, as defined in the GHS rule under WAC 296-901-14022 Appendix A.1 as "those adverse effects occurring following oral or dermal administration of a single dose of a substance, or multiple doses given within 24 hours,

	or an inhalation exposure of 4 hours." This definition does not include quantities, it does apply to a specific degree of toxicity. While the purpose of OSHA's and DOSH's current PSM rules are preventing and minimizing the consequences of catastrophic release, the purpose and scope of this rule is to reduce the risk of process safety incidents by eliminating or minimizing process safety hazards to which employees may be exposed. A process safety hazard is a hazard of a process that has the potential for causing a process safety incident, or death or serious physical harm. As such, this rule takes a more protective approach consistent with L&I's authority and direction under WISHA. Additionally, L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to implement similar rules. Employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
We believe the word "procedures" should be eliminated from the definition of Hot work since it creates confusion with operating and maintenance procedures. The word "operations" is understood and used in the Federal PSM standard. We don't understand what type of "hot work" is being added by including the word "procedures."	L&I will not be making the suggested change to the definition. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to implement similar rules. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. This includes the development of definitions. L&I reviewed and used various regulations and industry trade association and literary sources in creating the definitions used in the adopted rule. Definitions are intended to ensure the language used in the rule is clear and understandable to make the standard easier to comply with.
Replace with the following definition: **Independent Protection Layers (IPL).** Device, system, or action that is capable of preventing a scenario from proceeding to the undesired consequence without being adversely	L&I will not be making the suggested change to the definition. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the

affected by the initiating event or the action of any other protection layer associated with the scenario. Our proposed definition is consistent with definitions in existing literature (e.g., CCPS).	changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. This includes the development of definitions. L&I reviewed and used various regulations and industry trade association and literary sources in creating the definitions used in the adopted rule. Definitions are intended to ensure the language used in the rule is clear and understandable to make the standard easier to comply with.
Replace with the following definition: **Inherently Safer**. A condition in which the hazards associated with the materials and operations used in the process have been reduced or eliminated, and this reduction or elimination is permanent and inseparable from the process. Our proposed definition is consistent with definitions in existing literature (e.g., CCPS). Further noted, much of the text in the proposed rule is explanatory and would be more appropriately included in the non-mandatory Appendix C of the WAC.	L&I will not be making the suggested change to the definition. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. This includes the development of definitions. L&I reviewed and used various regulations and industry trade association and literary sources in creating the definitions used in the adopted rule. Definitions are intended to ensure the language used in the rule is clear and understandable to make the standard easier to comply with. Appendix C only applies to Part A of chapter 296-67 WAC and we will not be considering changes to those provisions of the law as part of this rulemaking.
Our proposed definition of Initiation cause is consistent with definitions in existing literature (e.g., CCPS). Our suggested changes to the proposed rule do not use the term "Initiating Cause"; therefore, it could be removed from the definition list. However, if the adopted rule used the term, we have provided a definition for consideration.	L&I will not be making the suggested change to the definition. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally,

	employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. This includes the development of definitions. L&I reviewed and used various regulations and industry trade association and literary sources in creating the definitions used in the adopted rule. Definitions are intended to ensure the language used in the rule is clear and understandable to make the standard easier to comply with.
The definition provided in the proposed rule is more appropriate for LOTO purposes. However, in the context of the relevant section (the only reference is Operating Procedures Section (5)(b) in the proposed rule), we believe its proposed definition is more appropriate for responding to leaks, spills, or discharges. For example, a leak could be isolated by closing a valve or bypassing a piece of equipment. The examples listed under this definition of isolate would be considered 'positive isolations' and may not be appropriate for an operator to conduct while responding to a loss of primary containment (LOPC) that is still on-going. Valve isolation would be sufficient as an initial response to address the concern posed in this section (i.e., making the area safe for responding to LOPCs). This requirement (i.e., removing sections of pipe) could introduce additional, unnecessary hazards to operators trying to respond to an LOPC.	L&I will not be making the suggested change to the definition. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. This includes the development of definitions. L&I reviewed and used various regulations and industry trade association and literary sources in creating the definitions used in the adopted rule. Definitions are intended to ensure the language used in the rule is clear and understandable to make the standard easier to comply with. While isolate could mean a leak, spill, or discharge, it can also be used for a variety of other reasons like lock out/tag out (LOTO) or loss of primary containment (LOPC) release mitigation.
Leading and Lagging Indicators. These definitions are vague, unclear, and inconsistent with industry consensus standards. For example, API restricts indicators to those that are "statistically valid" while L&I's definition fails to provide any limitation on any metric "requiring corrective action." Further, the definition conflicts with the federal PSM Standard and California PSM Refinery Standard. As a result, the definition violates several sections of the APA. *See* RCW 34.05.328(1)(h), 34.05.328(1)(b), and RCW 34.05.220(5).	The Washington Industrial Safety and Health Act (WISHA) under chapter 49.17 RCW directs L&I to adopt safety and health standards for conditions of employment, and specifically requires L&I "provide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning gases, vapors, dust, or other airborne particles, toxic materials, or harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity….." As discussed in the Cost Benefit Analysis (CBA), L&I based this

The proposed rule's definition of Leading and Lagging Indicators is inconsistent with CCPS and industry's understanding. We recommend replacing the definition to be consistent with CCPS or to use Process Safety Performance Indicators instead. In order for leading indicators to be effective, each facility needs to be able to identify and implement those indicators that are most relevant to the areas where improvement is required. Therefore, care should be taken not to overly prescribe what indicators are to be monitored to avoid monitoring indicators that potentially will not be effective at driving performance improvement. Facilities will also need flexibility to evolve these metrics as performance improves to ensure continuous improvement. This is aligned with the guidance from industry consensus per API RP 754 and IOGP Report 456. We proposed language to clarify that the topics included in this definition are examples of possible leading indicators, as opposed to specific indicators that are required to be monitored explicitly.	rulemaking on the best available evidence. The Cost-Benefit Analysis addresses why the rule is needed to achieve the goals of WISHA which provides the underlying authority for the rule. Additionally the CBA and least burdensome analysis address where the adopted rule differs from federal standards what L&I's authority is and includes evidence as to why the adopted rule needs to be different. This includes that federal PSM regulations, like Washington's rules, have not been updated since 1992 while there have been changes in the industry and continued worker injuries and fatalities. In addition, the federal OSHA PSM regulation does not apply to Washington employers, the L&I rules do. L&I also has authority to have standards that are more stringent than federal standards unless a federal law preempts a state from taking that type of action. The adopted rule was also written in a way and with the intent of it being as clear as possible by use of plain talk principles where possible, and additional definitions like "leading/lagging indicators" to ensure the industry understands the rule and the expectation for compliance. Leading and lagging factors in process safety have been successful performance indicators for predicting and preventing system failures before they present a hazard. The terms were recommended by the investigative panel formed after the BP incident in 2005, which resulted in 15 fatalities and 170 injuries. The BP US Refineries Independent Safety Review Panel ("Baker Panel") and US Chemical Safety Board (CSB) each recommended improved industry-wide process safety metrics.
Major Change. The terms "alteration" and "worsens" are undefined, vague, overly broad, and cannot be uniformly interpreted or implemented by refineries. The definition of "Major Change" also conflicts with EPA's definition of "Major Change," *see* 40 CFR 68.3, and violates the APA. *See* RCW 34.05.328(1)(e), 34.05.328(1)(b), and RCW 34.05.220(5). In fact, EPA does not even apply "major change" to refineries, only Program 2 facilities. We request that the definition recognize that the management of change (MOC) process is already a very thorough process and that the additional Damage Mechanism Review (DMR) and Hazard Controls Analysis (HCA) studies required for Major Change are unnecessary for most changes.	Thank you for your comment. The adopted language has been amended as follows: (20) **Major change.** Any of the following: (a) Introduction of a new process; (b) Introduction of new process equipment, or new highly hazardous chemical or material that results in any operational change outside of established safe operating limits; (c) Any alteration in a process, process condition, process equipment, or process chemistry that results in any operational change outside of established safe operating limits. The Washington Industrial Safety and Health Act (WISHA) under chapter 49.17 RCW directs L&I to adopt safety and health standards for conditions of employment, and specifically requires L&I "provide for the promulgation of

Our proposed definition recognizes that the MOC process is already a very thorough process and that the additional DMR and HCA studies required for Major Change are unnecessary for most changes. The proposed rule definition part (d) is confusing. The proposed text provides for a minor equipment addition, such as a valve, to be managed as a change, but not a major change, if it has no impact on safe operating limits. In this case, the MOC process adequately provides for necessary process safety reviews. All MOCs evaluate process safety hazards, and as such, we previously suggested that language be added for all MOCs to make that clear as it is currently seen in the proposed rule. For the example above, Process Safety is diluted by conducting/reviewing a process flow level DMR (this valve would not be present on a PFD level DMR) or an HCA for this change, when all that is needed is to follow the nor mal MOC steps. We consider that a third of the changes made would be Major Changes according to the proposed definition. The MOC regulation must be revised to be narrowly tailored to accomplish its intended purpose.	health and safety standards and the control of conditions in all workplaces concerning gases, vapors, dust, or other airborne particles, toxic materials, or harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity….." As discussed in the Cost Benefit Analysis (CBA), L&I based this rulemaking on the best available evidence. The Cost-Benefit Analysis addresses why the rule is needed to achieve the goals of WISHA which provides the underlying authority for the rule. Additionally the CBA and least burdensome analysis address where the adopted rule differs from federal standards, what L&I's authority is, and includes evidence as to why the adopted rule needs to be different. This includes that federal PSM regulations, like Washington's rules, have not been updated since 1992 while there have been changes in the industry and continued worker injuries and fatalities. In addition, the federal OSHA PSM regulation does not apply to Washington employers, the L&I rules do. L&I also has authority to have standards that are more stringent than federal standards unless a federal law preempts a state from taking that type of action.
Definition of Must. We welcome this definition and that Part B makes actions requirements and not just recommendations. This type of implementation may have prevented tragedies in Washington state and other major incidents around the country.	Thank you for your comment. This did not result in a change to the adopted rule language.
Nonroutine. This definition is not needed. Nonroutine is used in the Operating Procedures section. We do not understand what procedures will be created with this definition that are not already included in temporary, normal, shutdown, and start-up procedures or is not specified in the Consequence of Deviation and Steps to Correct or Avoid Deviation.	Thank you for your comment, the definition of nonroutine has been removed and an update has been made to WAC 296-67-327 to describe better describe what is meant by "nonroutine work" which is any other operating conditions not other specified in the rule.

WAC 296-67-327(1)(a)(viii): “The employer must develop, implement, and maintain effective written operating procedures. The operating procedures must provide clear instructions for safely performing activities involved in each process. The operating procedures must be consistent with the PSI and, at a minimum, must address the following: (a) Steps for each operating phase or mode of operation: (i) Start up; …. (vi) Normal shutdown …. (viii) Nonroutine work:” The term ‘nonroutine work’ as defined by CCPS includes startup and shutdown operations, and therefore could be considered redundant with parts (i) ‘Start up’ and (vi) ‘Normal Shutdown’ in the same section. To avoid confusion and possible redundancy, we propose to combine these items into section (i). Non Routine. This definition is vague, indefinite, and overly broad. “Steady state” is not defined and is not recognized by industry consensus standards. Thus, there is no agreed understanding between L&I and the regulated refineries as to which operations this would apply. Further, “any work done” would apply under WAC 296-67-327 (which proscribes the specific operating phases for which operating procedures are required), meaning that all work done (whether performed during the proscribed operating phases or outside of them) would require a procedure. Operating procedures are infeasible for all work performed at refineries. As a result, the definition violates several sections of the APA. See RCW 34.05.328(1)(b), 34.05.328(1)(d), 34.05.328(1)(e), and RCW 34.05.220(5).	

We believe that the concept of organizational change should be addressed in the Management of Change Section. A definition of “organizational change” is required in the context of management of change (MOC). We support MOC coverage of process safety-related organizational changes. The current MOOC requirements are overly broad, as it would apply to changes regardless of whether they impact process safety in covered processes. For example, reducing the number of engineers working on unit optimization projects at a PSM-covered facility should not trigger management of change for that organizational change since it does not have an impact on process safety. This clarity is necessary whether the organizational change is addressed in the MOC section or a new MOOC section.	L&I will not be making the suggested change to the definition. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA’s approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. This includes the development of definitions. L&I reviewed and used various regulations and industry trade association and literary sources in creating the definitions used in the adopted rule. Definitions are intended to ensure the language used in the rule is clear and understandable to make the standard easier to comply with. A definition of “organizational change” is not needed in this section since WAC 296-67-359 provides clarity on what is meant by organizational change.
We believe that the original WAC definition “process” adequately and properly defines and bounds the units and/or equipment to those containing a highly hazardous chemical with the potential to result in a catastrophic release. We also suggest that “covered process” be defined as a term. “Process” The addition of part ‘(e) Piping’ introduces a potential inconsistency in the language used in the rule in that it could be misinterpreted as a noun (i.e., ‘all piping’ in the facility) and could lead to confusion and disagreement in what constitutes compliance. We propose to adjust the wording to refer to an activity in the proposed language (or remove the term ‘piping’ in lieu of it being covered by the term ‘on-site movement’).	L&I will not be making the suggested change to the definition. The term “covered” was intentionally removed from the proposed and adopted standard and was discussed throughout stakeholdering of the rule. The intent of the adopted rule is to improve safety in Washington refineries. Making a distinction between covered and not covered processes does not add nor provide additional safety for refinery workers. The definition of process has been amended to include “transfer using” before “piping” to ensure clear understanding of the rule.
Process equipment. Equipment including pressure vessels, rotating equipment, piping, process heaters, instrumentation, process control, or mitigative equipment related to a process, which in the event of failure or malfunction has the potential to contribute to a process safety incident.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to implement similar rules. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer.

We believes this definition should align with the definition of Process. In stakeholder sessions, L&I stated that appurtenances meant mitigative equipment and this is not clear in the Proposed Rule. Most of the PSM processes in the Proposed Rule require analysis of process equipment making this definition very important for focusing the PSM program on prevention of Process Safety Incidents. Treating all equipment as if it has the same process safety risk will dilute the process safety focus for operators, mechanics, inspectors, and other staff.	There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. L&I applies the common dictionary definition of the term appurtenances, which means accessory objects. Given this is a common word and there is no intent to apply a different definition, further clarification does not need to be added to the rule.
Process safety culture. We believe that protection of people, environment and the facility are fundamental to safe operation of our facility. This regulation has traditionally focused on the safety of the workforce. Given that there are other regulations that focus on the protection of the environment, we would encourage L&I to take careful consideration before expanding the scope of this rule to also overlap with the protection of the environment. We propose to update the language to align with the purpose highlighted in section 296-67-300: "This part contains requirements for petroleum refineries to reduce the risk of process safety incidents by eliminating or minimizing process safety hazards to which employee may be exposed."	L&I will not be making the suggested change to the definition. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. This includes the development of definitions. L&I reviewed and used various regulations and industry trade association and literary sources in creating the definitions used in the adopted rule. Definitions are intended to ensure the language used in the rule is clear and understandable to make the standard easier to comply with.
Process Safety Incident. We note the definition already includes death and serious harm; therefore, repeating these two conditions is unnecessary.	L&I will not be making the suggested change to the definition. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. This includes the development of definitions. L&I reviewed and used various

	regulations and industry trade association and literary sources in creating the definitions used in the adopted rule. Definitions are intended to ensure the language used in the rule is clear and understandable to make the standard easier to comply with.
Process Safety Performance Indicators. Our proposed definition is very similar, but not as specific. Some measures may be from refinery data sets that are not "activities and events." Some measures used as process safety performance indicators may be from refinery data sets that are not 'activities and events'. Proposed alternative language: "Process Safety Performance Indicators. Company defined measures that may be used to assess process safety performance and process safety management system(s)."	L&I will not be making the suggested change to the definition. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. This includes the development of definitions. L&I reviewed and used various regulations and industry trade association and literary sources in creating the definitions used in the adopted rule. Definitions are intended to ensure the language used in the rule is clear and understandable to make the standard easier to comply with.
Qualified operator. The current draft references a training program in its definition of "qualified operator" but there is no citation given to specify *what* training program. We propose the following change to the definition of qualified operator: A person designated by the employer who, by fulfilling the requirements of the training program **described in WAC 296-67-331,** has demonstrated the ability to safely perform all assigned duties."	Thank you for the comment. The adopted language has been amended as follows: **Qualified operator.** A person designated by the employer who, by fulfilling the requirements of the training program <u>as described in WAC 296-67-331</u>, has demonstrated the ability to safely perform all assigned duties.
RAGAGEP. The current definition in the proposed rule does not include safety guidance and reports published by the Center for Chemical Process Safety or CCPS. OSHA consistently references CCPS publications as compliance guidelines and RAGAGEP. The definition does not currently include safety guidance and reports published by the U.S. Chemical Safety and Hazard Investigation Board Center for Chemical Process Safety	Thank you for your comment. Informative sources like CCPS have been excluded from the rule because they are not equivalent to other accepted industry practice or consensus codes mentioned in the definition. The change also aligns the adopted rule with Cal/OSHA language. The adopted language has been amended as follows: **Recognized and generally accepted good engineering practices (RAGAGEP).** Engineering, operation or maintenance practices and procedures established in codes, standards, technical reports or recommended practices,

(CCPS), for example, The CSB notes that the Occupational Safety and Health Administration (OSHA) consistently references CCPS publications as "compliance guidelines"5 and RAGAGEP. To be consistent with modern PSM good practice and OSHA compliance guidelines, we urge L&I to include CCPS guidance and reports in the definition of RAGAGEP. The definition of RAGAGEP must be broad enough to include all safe engineering practices currently being utilized by industry, including the internal standards formulated and implemented by employers. Additionally, RAGAGEP is intended to focus on Engineering Standards associated with Mechanical Integrity and Design, Maintenance, Inspection and Testing. It is not applicable to PSM work processes.	and published by recognized and generally accepted organizations such as, but not limited to, the American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), American Society of Mechanical Engineers (ASME), American Society of Testing and Materials (ASTM), National Fire Protection Association (NFPA), and International Society of Automation (ISA). RAGAGEP does not include standards, guidelines or practices developed for internal use by the employer.
Reactive substance. We recommend reverting back to the original Application Section 296-67-001 (2). Therefore, reactive substances are already listed in WAC 296-67-285.	Part B was created to specifically apply to refineries only, and replicates many parts of the current PSM rule. The application under Section 296-67-001(2)(i) references "A process which involves a chemical at or above the specified threshold quantities listed in WAC 296-67-285, Appendix A". Part B is newly created and has its own definition section that needs to include reactive substance, as those terms are used throughout the rule and apply to any uses of the chemicals or materials meeting the definition not just at certain threshold quantities.
Our proposed definition of Safeguard is consistent with definitions in existing literature (e.g., CCPS). Examples of the different kinds of safeguards do not add to the definition. Note: It is more appropriate to include examples of safeguards in the Non-Mandatory Appendices.	L&I will not be making the suggested change to the definition. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to implement similar rules. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. This includes the development of definitions. L&I reviewed and used various regulations and industry trade association and literary sources in creating the definitions used in the adopted rule. Definitions are intended to ensure the language used in the rule is clear and understandable to make the standard easier to comply with.

Toxic. Please remove. We recommend reverting back to the original Application Section 296-67-001 (2). Therefore, toxic substances are already defined within Appendix A of WAC 296-67-285, as required by the Clean Air Act.	L&I will not be making the suggested change to the definition. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to implement similar rules. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. This includes the development of definitions. L&I reviewed and used various regulations and industry trade association and literary sources in creating the definitions used in the adopted rule. Definitions are intended to ensure the language used in the rule is clear and understandable to make the standard easier to comply with. Part B was created to specifically apply to refineries only, and replicates many parts of the current PSM rule. The application under Section 296-67-001(2)(i) references “A process which involves a chemical at or above the specified threshold quantities listed in WAC 296-67-285, Appendix A. Part B is newly created and has its own definition section that needs to include toxic substance, as those terms are used throughout the rule and apply to any uses of the chemicals or materials meeting the definition not just at certain threshold quantities.
Turnaround. The definition of “turnaround” does not include unplanned shutdowns or other routine maintenance matters. Under this definition, an employer could mask a turnaround as an unplanned shutdown to avoid triggering regulatory requirements. We encourage L&I to revise this language to address this potential issue.	L&I will not be making the suggested change to the definition. Both turnarounds and unplanned shutdown trigger the same regulatory requirements, except for the requirements under corrective actions in WAC 296-67-383. The requirements under corrective actions are addressed in other PSM elements of the adopted rule, such as, PHA, SPA, HCA, and incident investigation.
WAC 296-67-311 – Process Safety Management Program	

We believe that the process safety management program section is not necessary. Section (1) in particular should be deleted. Under the terms of the PSM rule and the Washington OSH Act, the employer (not a particular person) already has a responsibility to comply with these requirements making this section unnecessary. The premises behind sections (2) and (3) are already incorporated throughout the proposed rule and the existing WAC language without being explicitly stated. If this entire section is deleted, we recommend moving section (4) to the Implementation Section. (4) The employer must develop, implement and maintain an effective program to track, document and assess leading and lagging process safety performance indicators. We believe performance indicators are an employers' responsibility to ensure the success of process safety management, and that the details of performance indicators should not be set by the regulator.	L&I will not be making the suggested change to the adopted rule language. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to implement similar rules. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. Harmonizing Washington and Cal/OSHA rules is intended to ensure the language used in the rule is clear and understandable to make the standard easier to comply with. Part B was created to specifically apply to refineries only, and replicates many parts of the current PSM rule. Part B is dedicated to oil refineries and standards that are currently in place have been moved or copied into this new section to provide a dedicated space for refinery regulations to be housed and found.
Regarding process safety indicators, the draft rule follows the California PSM rule. We have noted in previous comments to L&I and to California that process safety indicators that drive performance are a key feature of a robust PSM program. Through the collection and assessment of process safety indicators, a regulator may identify issues and shortcomings that, if correlated, may help prevent future incidents. Indicator data could also conserve government resources by helping state regulators focus resources and attention on priority safety areas where employers or industry are struggling, while deferring inspection or audit activities where data suggest problems or negative trends are less likely. We urge L&I to add greater detail to the process safety indicators section of the draft PSM rule by including specific indicators to track and document, and metrics that are measurable and actionable. We also urge L&I to include a mechanism for the regulator to collect and analyze this data on a regular basis to ensure continuous process safety	L&I will not be making the suggested changed to the adopted rule language. Washington law is not structured the same as California. California specifically has a law that regulates and requires the reporting of certain information to the California Accidental Release Prevention program, which Washington does not have. We also do not have the ability to defer inspections and just audit refineries instead. Inspections play an important role in ensuring compliance and understanding what issues may be happening in the field which allows L&I to gauge the need for rulemaking, policy adjustments, or target educational materials. L&I created definitions for "process safety performance indicators", "lagging indicators", and "leading indicators" in WAC 296-67-307 to provide clarity on the expectations for what must be tracked and documented.

improvement and the prevention of incidents, to identify trends and deficiencies, and to make the information publicly available, including publishing such data in real time, or in an annual report.	
WAC 296-67-315 Employee collaboration	
We believe the Employee Participation Section of the original WAC rule sufficiently and appropriately describes the requirements for involving employees in the various sections of the WAC rule. However, we are proposing edits to the language in the Proposed Rule in an attempt to make the language work. L&I has modified the commonly used term “Employee Participation” to “Employee Collaboration.” We believe that “Employee Participation” should be used throughout the rule, consistent with California and federal PSM and Risk Management Program (RMP) rules. Participation is something that can be observed and documented. Collaboration implies a level of engagement that would be difficult to measure and document and adds considerable compliance uncertainty. We note that providing for effective participation throughout all PSM elements is misleading and allows for some tasks to be conducted by one individual or one part of the organization.	L&I will not be making the suggested change to the adopted rule language. L&I was intentional in using the term “collaboration”. The use of the term collaboration is intended to describe the partnership between an employer and employee. Collaboration means to “the action of working with someone to create or produce something”. Participation means “the act of taking part in something”. Collaboration implies more active engagement in all of the required sections of this adopted rule.
My comment supports safety standards for management of highly hazardous chemicals. Among things, these rules will empower workers to protect themselves, communities and the environment by requiring employee collaboration in refinery safety decision making allowing them to stop work when lives are at risk. These rules will prevent deadly fires, explosions and toxic releases that killed 13 workers at Skagit county refineries; make safety measures requirements, not merely recommendations; and help safeguard nearby communities and the region’s marine environment.	Thank you for your comment. This comment did not result in a change to the adopted rule language.
We are pleased that worker collaboration is included in this proposed rule as it is essential to any health and safety management system. The workers are the experts in the field operating and maintaining the operations around the clock throughout the year. Having workers and their representatives	Thank you for your comment. This comment did not result in a change to the adopted rule language.

included in all activities covered by this rule is essential to preventing future tragedies and process safety incidents.	
I would like to thank the State for stepping up and doing this. The inclusion of worker collaboration is the foundation of the draft rule. Our members are the experts of our plants, operating and maintaining them on weekends, nights, holidays, 24 hours a day. The inclusion of the workers in the safety decisions, investigations, recommendations, and all other PSM activities is essential in preventing process safety incidents.	Thank you for your comment. This comment did not result in a change to the adopted rule language.
We believe the Employee Participation Section of the original WAC rule sufficiently and appropriately describes the requirements for involving employees in the various sections of the WAC rule. Requirements in Employee Participation, Section (2) of the original WAC rule sufficiently addresses the topics listed in the Proposed Rule. Using the phrase, "throughout all phases," is misleading because some activities are assigned to one employee or part of the organization. Examples of these activities include updating Mechanical Integrity information, preparing an equipment data sheet, writing reports, setting up team meetings and scheduling studies. The rule should delete the phrase, "throughout all phases," or include a qualifier such as, "as described in the written plan in Section (1)."	The section ensures meaningful collaboration for affected operating and maintenance employees and employee representatives in all activities pertaining to the requirements of the rule. Employee collaboration goes beyond initial assignment and includes review and finalization of work or work product required by the sections of the rule where employee collaboration is also required.
We believe the proposed rule needs to be clear that access needs to be provided to documents prepared or collected as required by this rule. The language proposed has no bounds on it	L&I will not be making a change to the adopted language. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.

	The rule requires an employer to develop a plan on employee collaboration including documenting how an employee or employee representative may gain access to documentation under the rule even when protected as a trade secret.
We believe the expanded Employee Participation sections have created some confusion on the requirements based on the writing of the language and experience in California. We propose adding section (d) to provide needed clarity for employers, employees, and regulators. (d) With respect to employee participation in the PSM activities required by this section, an employer will allow for "effective participation" by employees in such activities if it provides advance notice of each such PSM activity and considers input provided by individuals participating in such PSM activities, including the employee representative. If the requisite advance notice is provided as specified above, an employer shall not be required to delay any PSM activity due to the failure by a union, or employees in the absence of a union, to select an employee representative, or the failure of a selected employee representative to participate in the noticed PSM activity. Nothing in this subsection shall be construed to require an employer to accept recommendations or findings of employee representatives.	L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. L&I recognizes this section and the use of the term "collaboration" differs from California regulations. L&I was intentional in using the term "collaboration". The use of the term collaboration is intended to describe the partnership between an employer and employee. Collaboration means to "the action of working with someone to create or produce something". Participation means "the act of taking part in something". Collaboration implies more active engagement in all of the required sections of this adopted rule.
We believe the Employee Participation Section of the original WAC rule sufficiently and appropriately describes the requirements for involving employees in the various sections of the WAC rule. The specificity of the collective bargaining agent is subject to collective bargaining. The employer is responsible for the PSM Program and has to provide for Employee Participation. Furthermore, section (2) of the Proposed Rule does not describe the necessary qualifications of the individuals participating on the teams. The rule specifies qualifications for Employee Representatives, who must be qualified for the task and for some of the employees participating on teams. However, this section is vague as to how many employees are selected and what role the selected employees fill. The suggested language	L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. The changes made regarding employee collaboration were intentional. Subsection (2) and (3) provide the requirements on how an employer can

references the written employee participation plan which is the document that includes the specifics on how employees are selected.	have employees or employee representatives selected for the PSM program development. The rule requires refineries to develop a written employee collaboration plan that would detail the information required in the rule including the selection of employees.
Remove section (3). The Employee Participation Section of the original WAC rule sufficiently and appropriately describes the requirements for involving employees in the various sections of the WAC rule. Our proposed definition of Employee Representative provides for selection at represented and non-represented facilities.	L&I will not be making the suggested change to the adopted language. Subsection (3) is necessary to address the scenario where a union or collective bargaining units do not exist. In that case, employers need to develop a process to appoint employee representatives to participate in all required elements of the rule. Further this language aligns with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer.
Remove subsection (3). Compliance is an obligation of the employer, not the employees or employee representatives. Under the Employee Participation Section (WAC 296-67-009), employees or employee representatives are involved in each element of PSM including compliance auditing, and under the Trade Secrets Section (3) "Subject to the rules and procedures set forth in WAC 296-62-053, employees and their designated representatives shall have access to trade secret information contained within the process hazard analysis and other documents required to be developed by this standard" which includes compliance audit reports.	L&I will not be making a change to the adopted language. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
Remove section (4). We believe the Trade Secret section addresses this point and that it does not need to be repeated in the rule. We believe the proposed rule needs to be clear that access needs to be provided to documents prepared or collected as	L&I will not be making the suggested change to the adopted rule. L&I has found it important that certain information in the rule is reiterated to ensure clarity on the various provisions on the rule, when and how they apply.

required by this rule. The language proposed has no bounds on it. This section is not required because the Trade Secret section has a similar section that refers to all persons to whom information is made available to.	
Remove Sections (5) and (a) and add the topic of "stop work authority" to the safe work practices under "Operating Procedures". In keeping with a performance-based standard, WSPA believes the level of specificity proposed in the Proposed Rule is not appropriate. Stop work authority is more appropriately included as a safe work practice under the Operating Procedures Section, like LOTO, confined space entry, opening process equipment, etc. The details presented in the proposed rule could have merit in the non-mandatory Appendix C of the original WAC rule.	The adopted rule aligns with California regulations on this topic. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to implement similar rules. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. Having the stop work authority procedure requirement in the employee collaboration section ensures that clarity and transparency that the employees are consulted in developing, implementing, and maintaining effective stop work procedures and that stop work authority is an overarching right that applies to the performance of any task not just work related to a process. The Chemical Safety Board has recommended that OSHA's include stop work authority in its rules and OSHA has indicated it is considering adding stop work authority to the employee participation section. The required elements of the stop work authority procedures are necessary to ensure that employees, including qualified operators, and employees of contractors understand their rights and are enabled to take action to address hazards, including process safety hazards, that there is effective procedures for reporting hazard hazards anonymously, and to ensure that the stop work procedures allow employees to take action without fear of retaliation.
We are not clear as to the purpose of this section (5)(a)(iv). If retaliation is a concern, then measures to ensure that employees who exercise stop work authority as described in this part are protected from intimidation, retaliation, or discrimination and this is covered under existing regulations, WAC 296-800. WAC 296- 800-110 states that employers may not discriminate against employees who refuse to perform dangerous tasks. RCW 49.17.160 states that no person shall discriminate in any	The adopted rule aligns with California regulations on this topic. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to implement similar rules. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language

way against an employee who complains about safety and health. These two provisions providing employees the right to refuse unsafe work have been in place for decades and have worked adequately to address the concerns underlying this draft Section. This section creates an unnecessary burden on employers and does not amplify pre-existing employee rights to refuse unsafe work. Lastly, employers already have a statutory duty under RCW 49.17.060 to maintain a safe workplace, which is the ultimate stop work authority.	differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. All employees are protected from retaliation when exercising their rights under WISHA, including the right and authority to refuse work that has the potential to be hazardous or dangerous to life and health under WAC 296-360-150. This rule requires the employers, in consultation with employees, develop, implement, and maintain effective stop work procedures and ensuring employees understand their rights related to the stop work authority procedure is an integral part of any effective stop work authority procedure. Retaliation allegations under this chapter would still be processed by L&I under chapter 296-360 WAC.
WAC 296-67-315(5)(b): We believe that all employees, contractors, and visitors to our site have the ability to report hazards of any kind. We actively encourage a 'speak-up' culture. Given that 'how to report unsafe conditions and practices' is already a requirement of the WAC code, and that this particular code is intended to 'reduce the risk of process safety incidents by eliminating or minimizing process safety hazards to which employees may be exposed,' we propose that this language be adjusted to address process safety hazards specifically.	L&I will not be making the suggested change to the adopted rule. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to implement similar rules. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
Remove section (6). We suggest to incorporate stop work authority under the Safe Work Practices in the Operating Procedures Section. This is a documentation requirement that has questionable value, poses difficulty with compliance, and imposes an undue burden on the employer. This may also inhibit personnel from reporting rather than encourage exercising Stop Work authority. Many refineries have programs that currently promote a positive environment and encourage Stop Work authority, though they are not as written here.	The adopted rule aligns with California regulations on this topic. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to implement similar rules. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. The placement of the stop work procedure requirement in the employee collaboration section is addressed above. The documentation requirement under (6) is necessary to monitor reports of hazards, track process safety indicators, and evaluate the efficacy of stop work procedures and overall safety culture.

We agree that employers should provide for direct or anonymous reporting on process safety hazards. We believe that this regulation should be focused on process safety hazards. In keeping with a performance-based standard, the level of specificity in the proposed rule is not appropriate.	Thank you for your comment. The level of specificity is necessary for clarity and transparency. This comment did not result in any change to the adopted rule language.
A second major theme from the surveys and focus groups of Anacortes refinery employees was the need for employee collaboration in the Process Safety Management process. "Employee collaboration is very important because what it tells me, is that process safety shouldn't be an 'us vs. them' thing. Collaboration in my mind means a partnership." A local union leader commented, "Nobody knows how these facilities run better than operators out in the field today. We need to ask them what they think. If an operator has a problem, 9 times out of 10 they've already thought of a solution." Another said, "You could walk down the concrete and you could feel the difference in a vibration on a pump because you are out there all the time."	Thank you for your comment. This comment did not result in a change to the adopted rule language.
WAC 296-67-315, Employee Collaboration. This is a key provision of the PSM rules – requiring that workers be included in all elements and phases of safety decision making. It empowers workers to protect themselves and each other and, in turn, their families, nearby communities and the environment. Although the 1992 rules (still in effect today) had a provision entitled "Employee Participation" (296-67-009) it was limited in its scope and had no teeth. Management did not interpret this provision to require that employees have a seat at the table when safety decisions are being made. In its final report concerning the Tesoro 2010 major incident, the U.S. Chemical Safety Board (CSB) found that Washington State "does not effectively involve the workforce in hazard analysis and prevention of major accidents; …" (Report, section 7.0 and see 7.5) The report goes on to make specific recommendations about the involvement of the workforce that are captured by your proposed rule.	Thank you for your comment. This comment did not result in a change to the adopted rule language.

WAC 296-67-315 (5)(a),Effective Stop Work procedures. Significantly, this rule has been strengthened in your proposal by expressly prohibiting intimidation, retaliation and discrimination against workers exercising stop work authority. It gives them the right to anonymously report hazards. Employees who know about process unit corrosion, cracks and other damage need to be empowered to report these problems and take action to stop hazardous conditions without fearing the loss of their jobs.	Thank you for your comment. This did not result in any change to the adopted rule language.
Employee Collaboration, (5)(b) We urge L&I to remove the words "…prioritize and…" because a hazard that could cause death or serious physical harm is an urgent matter and the current proposed language can be read to suggest instead it could/should be subject to a prioritization process.	L&I will not be making the suggested change to the adopted rule. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. For anonymous complaints, the rule requires the employer "prioritize and promptly respond to and correct hazards that present the potential for death and serious physical harm" over those reports that employer determines do not constitute a hazard or that the hazard is being corrected by other means.
WAC 296-67-319 Process Safety Information	
We believe the requirement in (1) to develop a compilation of Process Safety Information prior to conducting studies, should simply require the compilation. The requirement to develop, implement, and maintain a compilation before performing a study does not make sense. The proposed rule requires that PSI be accurate, which requires maintaining the PSI through mechanisms such as the MOC process.	Thank you for your comment. The adopted language has been amended as follows: **WAC 296-67-319 Process safety information.** "(1) The employer must develop and maintain a compilation of written process safety information (PSI) before performing any:"
Our suggested language: (2) The compilation of written PSI is to enable the employer and the employees involved in operating the covered process to	L&I will not be making the suggested change to the adopted rule language, because the adopted language is consistent with California. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach

identify and understand the hazards posed by those covered processes involving highly hazardous chemicals. The suggested language is from the original WAC.	was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. The adopted rule includes the language "must be sufficient" because it's important for employees and employers to have all the information they need when making decisions.
We believe that (3) in the rule should require that a process be in place to verify PSI rather than require all PSI be verified. This change in wording makes it clearer that the employer needs to ensure their work processes, such as MOC and periodic checks, are in place to keep PSI accurate. PSI is very abundant, and the rule should focus on work processes to keep it up to date. We believe that the proposed rule goes beyond that definition and includes study results and other information that is developed using PSI, rather than being PSI itself. For example, a DMR is conducted using PSI such as a simplified process flow diagram, information on materials of construction, and technology of the process and corrosivity information. The results of a DMR are not PSI. Just like PHAs are not PSI, but instead are performed using PSI. Rather the results are used to ensure process control, corrosion monitoring and that programs and safeguards are in place to ensure mechanical integrity. Results of DMRs should be removed from (3). In the DMR section, it is required to keep DMRs for the life of the process and there are other requirements that these reports and others are made available to employees, including for conducting PHA and other studies.	L&I will not be making the suggested change to the adopted rule language, because the adopted language is consistent with California. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. This is necessary since processes, technology, maintenance, and equipment changes over time. Any changes to process chemistry or other component of a process may trigger a damage mechanism review (DMR). Information contained in a DMR can have a direct correlation to equipment inspection and testing schedules.
A number of minor changes were made to this section, (4), that do not appear to be consistent with the purpose of being a process safety focused rule or to add significant value. The list is already mentioned as being a minimum list. The original WAC language adequately describes that minimum list. Specifically:	L&I will not be making the suggested change to the adopted rule language, because the adopted language is consistent with California. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that

Damage Mechanism Data is not the same as Corrosivity data. Damage Mechanism data includes information about the process and the equipment. It is clearer to state “Corrosivity data” in section (4).	operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. While the purpose of OSHA’s and DOSH’s current PSM rules are preventing and minimizing the consequences of catastrophic release, the purpose and scope of this rule is to reduce the risk of process safety incidents by eliminating or minimizing process safety hazards to which employees may be exposed. A process safety hazard is a hazard of a process that has the potential for causing a process safety incident, or death or serious physical harm. As such, this rule takes a more protective approach consistent with L&I’s authority and direction under WISHA. Additionally, Part B was created to apply to refineries only, and replicates many parts of the current PSM rule. There are many types of damage mechanisms in a refinery environment; and corrosion is only one. A comprehensive understanding of all damage mechanisms in a facility has a direct, impact on preventing catastrophic events. A Damage Mechanism Review is all-inclusive and therefore provides a better picture and more information than simply having corrosive data available.
Replace section with the following: (5) Information pertaining to the technology of the covered process must include at least the following: (a) A block flow diagram or simplified process flow diagram (see WAC 296- 67-289, Appendix B); (b) Process chemistry; (c) Maximum intended inventory; (d) Safe upper and lower limits for such items as temperatures, pressures, flows, or compositions; and (e) An evaluation of the consequences of deviations, including those affecting the safety and health of employees. We are suggesting minor clarifications. The language similar to the original WAC. Chemical mixing is addressed in section (4).	L&I will not be making the suggested change to the adopted rule. This section reiterates current standards under chapter 296-67 WAC and is consistent with California regulations. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to implement similar rules. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.

Replace Section (7) with: (7) The employer must document that equipment complies with recognized and generally accepted good engineering practices. We suggest the proposed rule refer to the Federal OSHA memorandum of May 11, 2016, on RAGAGEP which includes the topic of internal company standards; therefore, the phrase "or with more protective internal practices that ensure safe operation" does not need to be included in section (7).	L&I will not make the suggested change to the adopted rule. The comment requests the same change as comments on the definition of RAGAGEP. The definition of RAGAGEP does not need to be changed as it is consistent with OSHA's memo from 2016 and aligns with Cal/OSHA language. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to implement similar rules. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
An employer may not have construction and installation records for existing equipment that was designed and constructed with codes, standards or practices no longer in general use. An employer can meet the other requirements in Section (9) to determine that the equipment is safe to operate.	Refineries are already required to have this information per WAC 296-67-013. Refineries are expected to continue to document this information as required under current law. This comment did not result in any change to the rule language.
We believe that the Employee Participation requirements should not be repeated in each PSM element. Section (10) provides clarifications needed for PSI. The Contractor Section does not capture the requirement that relevant PSI be made available to employees of contractors.	Thank you for the comment. L&I has made the suggested change to remove the repetitive language regarding employee collaboration from multiple sections to streamline the rule and align with Cal/OSHA language.
WAC 296-67-319(4)(a). The purpose of this regulation is to address hazards resulting in catastrophic consequences. Chronic consequences are covered under numerous other WAC HSE standards (ex. HAZCOM, Asbestos, Benzene). 'Chronic' should be deleted from (a). Proposed alternative language: "Toxicity information; including acute ~~and chronic~~ health hazards*;"*	L&I will not be making the suggested change to the adopted rule. The rule language reflects a requirement refineries must already comply with in Washington. It is also consistent Cal/OSHA L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to implement similar rules. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. Further, all process and health hazard information is needed for PSI determinations.
Requirements for worker collaboration in developing safety and risk reduction procedures seem critically important. Too often	Thank you for your comment.

in many work environments, the people most knowledgeable about the condition of the equipment they work with and their potential risks, the workers, are excluded from consultations about whether and how to improve processes or mitigate risk. The new rule specifically requires including workers.	This did not result in any change to the adopted rule language.
WAC 296-67-323 – Hazard analyses	
Section (1)(a) means that employers need to modify previous PHAs to meet the additional requirements in Part B in order to be considered a valid initial PHA: PHAs performed in accordance with the requirements of WAC 296- 67-017 must satisfy the initial PHA requirements of Part B of this chapter. We believe the sentence should read: PHAs performed in accordance with the requirements of WAC 296-67-017 shall satisfy the initial PHA requirements of Part B of this chapter. This sentence means that when the rule is adopted, the PHAs that have already been conducted in compliance with WAC 296-67-017 will be deemed to be in compliance with the initial PHA requirements by DOSH. As these PHAs are revalidated, the additional requirements in Part B will be met. Shall refers to a determination made by L&I if a condition is met and not an employer requirement. In most cases, "must" refers to a requirement of a regulated party.	L&I will not be making the suggested change to the adopted rule language. The term "must" is defined under WAC 296-67-300(21) as "mandatory" to assist refineries in identifying mandatory provisions of the rule. PHAs that meet the standard in WAC 296-67-017 prior to the adoption of the rule will be considered in compliance per the PHA schedule until they have to be revalidated as required under the adopted rule, WAC 296-67-323.
Initial PHAs for existing covered processes have already been conducted as required by the existing rule. Criteria used to determine when to conduct a PHA will also include when it is due for revalidation and resource availability. Some existing process units such as utilities and storage tanks may require PHAs that were previously exempt are lower risk processes and would not be a high priority. They will need to be worked into the PHA schedule. We believe the proposed language is confusing and that there is no need to specify how to prioritize PHAs.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. Additionally, the requirements of this section are similar to rules refineries must comply with and should not result in additional burdens.
The original language of (1)(c) should be retained and modified as needed to include some of the additional requirements:	L&I will not be making the suggested change to the adopted rule language. Part B was created to specifically apply to refineries only, and replicates many parts of the current PSM rule. Additionally, the adopted rule language is

• Section (ii) was reworded for clarity that the PHA needs to address process safety incidents as defined in the proposed rule. This section includes (ii) and (x) in the proposed rule. We support including DMR reports in (iii) as they inform the PHA team of the types of failures that may occur in different abnormal operating scenarios, such as a brittle fracture or general corrosion, and this information helps the team understand safeguards than need to be in place that are likely already identified in the DMR report. We suggest in sections (iv) and (viii) the addition of the words "process safety" in order to more clearly focus on hazards that could result in a process safety incident as defined in the proposed rule. We support adding L&I proposed rule (xi) which we suggested in section (ix), to ensure that the revalidated PHA incorporates changes made since the PHA was last conducted. Sections (iv) and (ix) of the proposed rule sections were omitted when the language was reverted to the original. It is unclear what a PHA team would be expected to do to meet these new requirements: Section (iv), HCA reports, is not needed to be included because any resulting changes made in a process unit associated with a major change or incident investigation or PHA recommendation are incorporated into the Process Safety Information considered in the PHA or the MOCs reviewed. The PHA team does not need to revisit all options considered in a HCA study. Section (ix) seismic events - PHA teams do not have the experience to determine the effects of seismic or external events on structures and/or processes. Emergency response procedures and design standards address these hazards (e.g., wind loads, seismic loads, etc.).	consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
We believe the original WAC language in subsection (1)(d) was well understood. The additional requirement for team consultation is already occurring based on the performance-based nature of the existing standard and is in line with the original WAC language of expertise in engineering and process operations.	L&I will not be making the suggested changes to the adopted rule language. It is important to include all pertinent requirements in appropriate sections to ensure clarity and ease of compliance. The current regulation requires a team with expertise to be involved in the PHA. As mentioned in the comment refineries are currently able to comply with this standard. The adopted rule, Part B, just makes clear what types of employees must be involved.

	The adopted language is also consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
The Employee Participation Section adequately covers participation in PHAs.	Thank you for the comment. L&I has made the suggested change to remove the repetitive language regarding employee collaboration from multiple sections to streamline the rule and align with Cal/OSHA language.
(f) The PHA report must include: (i) The methodologies, analyses and factors considered by the PHA team; (ii) The findings of the PHA team; and (iii) The PHA team's recommendations. We support evaluating effectiveness of safeguards in a separate assessment. We do not agree with being required to amend the PHA report with a safeguard assessment. We believe that how study documentation is maintained should be determined by the employer, so long as a documentation system is set up that provides access to employees.	L&I will not make the suggested changes to the adopted rule language. The additional information on safeguards to address future deficiencies is an integral part of performing a PHA and documenting activities that can reduce hazards in a process. The additional information required under the rule does not require retroactive amendments to PHAs. The rule requires this information to be included in future PHAs.
We agree that the adequacy or effectiveness of safeguards should be included in the PHA section. Performance-based standards are more successful than prescriptive standards, these changes would allow industry to develop the best methodology and tools to address these new compliance requirements. Creating a new term "safeguard protection analysis (SPA)" is not necessary. Subsections (b) and (c) prescribe how to conduct a safeguard evaluation. We do not believe that specific methodologies should be prescribed. Document requirements specified in (e) should be removed since keeping with the principles of	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how

performance-based standards, the specific methodology selected will specify documentation requirements and should not be specified in the rule.	petroleum refineries operate in Washington. SPA uses quantitative or semi-quantitative methods such as LOPAs or equally effective method to identify the most effective safeguard where a PHA will not get to that level of detail making the SPA a more protective measure. The rule does not prescribe which methods must be used. The rule uses "such as" and "or equally effective method" prior to identifying the types of methods that may be used by an employer providing options to the employer when conducting a SPA. Like several DOSH rules including the current standards refineries must comply with required documentation of different actions required by an employer. Documentation is an important element of tracking safety and health information and requirements.
(3) Hierarchy of hazard controls analysis. (a) The employer must perform an HCA in a timely manner as follows: (i) For all recommendations made by a PHA team for each scenario that identifies the potential for a process safety incident that are considered a major change; (ii) For all recommendations that result from the investigation of a process safety incident that are considered a major change; (iii) As part of managing changes, whenever a major change is proposed; and (iv) During the design and review of new processes, new process units, new facilities, and their related process equipment. Our proposed change in (3)(a) would allow industry to develop the best methodology and tools to address these new compliance requirements. Another option is to leave the term Hierarchy of Hazard Controls Analysis as is and to provide flexibility in the requirements/application. We believe applying Hierarchy of Hazard Control Principles is most effective during the design of a process unit or a Major Change, provided Major Change is defined appropriately. We previously commented that the hierarchy of control "principles" can be a useful tool in risk reduction, and recommended an approach that encourages employers to incorporate the concepts of inherent process safety into their PSM processes.	L&I will not be making the suggested change to the adopted rule language L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. Best practices dictate that an analysis of hazards and their respective controls is a critical part of understanding process safety. Best practices do not necessarily include retrospective metrics such as studies or assessments made in other jurisdictions.

WAC 296-67-323(3)(b) Revalidating HCAs. (3)(b) delete section. We believe there is very little value, if any if revalidating HCAs. It is similar to conducting an HCA for an existing process unit. The value of applying Hierarchy of Hazard Control principles is in the design. In a previous draft, L&I had the requirement for conducting HCAs for existing process units and we believe that this requirement was a follow-up study. Since those studies are no longer required, except in the infrequent case of designing a new process unit, and this would be a low value exercise, we are requesting that this requirement be deleted.	L&I will not be making the suggested change to the adopted rule language. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. The rule allows the employer latitude to perform HCAs every five years, with the option of performing them outside of the PHA revalidation dates. The PHA must review prior HCA reports during the PHA and update accordingly; and HCAs must be performed as stated in WAC 296-67-323(3)(a). L&I feels that these conditions are within the intent of the rule.
Revert to similar original WAC language for PHA: (d) The hierarchy of hazard control analysis must be performed by a team with expertise in engineering and process operations, and the team must include at least one employee who has experience and knowledge specific to the covered process being evaluated. Also, one member of the team must be knowledgeable in the specific hierarchy of hazard control analysis methodology being used. We believe the original WAC language was well understood. The Employee Participation Section adequately covers participation in PHAs. The additional requirement for team consultation is already occurring based on the performance-based nature of the existing standard and is in line with the original WAC language of expertise in engineering and process operations.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA and consulting with key subject matter experts enables a team to make a well-informed decision or conclusion. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
Our second recommendation is that we -- that the Department reinstate the language around timelines into the draft and ensure that these timelines are adhered to by clearly attaching	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much

enforceable deadlines to -- specifically to hazardous chemicals analyses. The HCAs are definitely one of the most important tools in the rule to ensure safety in the refinery.· However, without clear enforceable deadlines, there's no way to actually ensure that they're appropriately followed. So we would ask to amend the section on hazard analyses Section 3(b) to as follows: "All HCAs for facility processes must be completed as standalone analyses within five years of the effective date of Part (b) of this chapter and are required for all PHA revalidations that occur after the effective date."	as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. Setting the priority order of methodologies is consistent with regulations refineries must already comply with in California. While there are slight variations from other state regulations this provision is needed to ensure inherently safer strategies are prioritized and identified to eliminate and reduce risk.
(3)(d) The HCA team must: (i) Consider hierarchy of hazard controls principles during the design and review of a new covered process and in the process of conducting a MOC for Major Change and making recommendations that are Major Changes for PHAs and Process Safety Incident Investigations. (iii) Identify, analyze, and document safety measures considered for the relevant process safety hazards. (iv) Develop recommendations for the identified process safety hazards. We commented previously on the benefit of allowing the employer to develop their own processes for considering hierarchy of hazard controls principles for new process unit design, major change, and study recommendations. It is likely the process will vary for the different requirements. It isn't necessary to compile all risk relevant data for each process when evaluating a specific recommendation from a PHA. The risk relevant data for that recommendation and alternatives being considered is all that is needed. The steps outlined are too prescriptive and not applicable in all cases. The definition of Hierarchy of Hazard Controls already provides the order preference of safety measures and safeguards. We note that the search for safeguards is a debate in California and feels very strongly that (A) and (B) be deleted from section (v). We feel strongly that there needs to be some flexibility in	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. Setting the priority order of methodologies is consistent with regulations refineries must already comply with in California. While there are slight variations from other state regulations this provision is needed to ensure inherently safer strategies are prioritized and identified to eliminate and reduce risk.

prescribing the order in which safeguards need to be recommended. There may be unintended consequences elsewhere in a process by blindly choosing the highest priority safeguard in a scenario.	
(e) The HCA team must document in a report or the source study (MOC, Incident Investigation or PHA) the following within 90 calendar days of developing recommendations: (i) A description of the composition and qualification of the team; (ii) A description of the HCA methodology used by the team; (iii) A description of each process safety hazard analyzed by the team; (iv) A description of the inherent safety measures and safeguards analyzed by the team; and (v) The rationale for the inherent safety measures and safeguards recommended by the team for each process safety hazard. We believe flexibility should be provided to the employer on how to best document the HCA. The employer may choose to document the analysis within the MOC, Investigation or PHA or as a separate report. As long as the information is provided, and accessible, there should be no reason to write a separate report or to append a report.	L&I will not make the suggested changes to the adopted rule language. Documentation of information required by a rule has been a long-standing requirement for employers in Washington. L&I believes this requirement is an essential part of safety procedures and employers can document and store information according to their own business practices which could include performing a HCA along with a PHA which could reduce any additional time required to perform the analysis and properly capture the information required under the rule.
WAC 296-67-323(3)(d) HCA Requirements. The HCA steps outlined in this proposed section are too prescriptive in practice and not applicable in all cases. The definition of Hierarchy of Hazard Controls already provides the order preference of safety measures and safeguards. Further, there is not a clearinghouse on safety measures referenced in (v). Employers need to be able to determine how best to identify effective safeguards that have been achieved in practice without having specific instructions on how to conduct a search. We strongly recommend that (A) and (B) be deleted from (v). We also suggest that more flexibility in prescribing the order in which safeguards need to be recommended should be provided in the rule language.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA and L&I believes that relevant, publicly available information on inherent safety measures and safeguards is part of a successful safety program. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.

We noted that a well-funded, well-staffed, technically qualified regulator plays a critical role in reducing the risk of catastrophic incidents by ensuring that petroleum refineries are effectively identifying hazards and reducing risk. We encourage L&I to include more robust language that outlines the role of the regulator including verifying the effective implementation of the PHA, HCA and SPA, review of key process safety indicators, and establishing mechanisms for the regulator, refinery management, workers, and their representatives to play essential roles in the prevention of incidents.	Thank you for your comment. L&I has worked to build a PSM enforcement unit that has qualified and trained compliance officers. L&I is committed to continuing to build on this work and educating industry on important safety and health standards found in this rule.
The process hazard analysis (PHA) must address the volume of publicly documented incidents that are potentially large and dispersed, which could lead to an unreasonably burdensome amount of work to document that all relevant incidents that have been discovered, unless some sort of boundary is given with regards to what incidents are expected to be covered by this rule.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. Outcomes of previous incidents and external events provide a historical record, which forms current and future safety practices. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
WAC 296-67-323(1)(d). The use of commas, 'and' and 'or' in this section could be misconstrued to have two different and conflicting meanings, specifically with regards to what qualifications are optional vs required as it pertains the personnel performing the PHA. To avoid possible confusion, we propose to rearrange the wording so that it is more clear that the 'or' statement is referring to only the qualification of the refinery operating employee (and whether they 'work in the process' or 'provide training about the process') and not to the other qualifications ('expertise in engineering and process operations' and 'experience and knowledge specific to the process').	Thank you for your comment, the adopted rule language has been amended as follows based on the comment: (d) The PHA must be performed by a team with expertise in engineering and process operations, and must include at least one refinery operating employee who currently works in~~,~~ or provides training about the process, and who has experience and knowledge specific to the process being evaluated. The team must also include one member with expertise in the specific PHA methodology being used. As necessary, the team must consult with individuals with expertise in damage mechanisms, process chemistry, safeguard protection analysis, and control systems.

WAC 296-67-327 Operating procedures	
The language removed from the operating procedure section requiring a minimum number of operators to safely operate a process unit needs to be reinstated. This does not dictate to the company what the number is. It just requires them to determine and define that number. This would not be any different from the early risk management plans that companies developed that often had minimum staffing minimums defined for emergencies. Reinstate the language in (1)(c) in the Operating Procedures section ensuring a safe minimum number of employees are required for the execution of any procedure. Harmonizing Washington's rule with California's will further synchronize to the way the industry is regulated on the West Coast, reducing inconsistencies and uncertainty.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
We recommend retaining "initial startup" from the original WAC rule in section (1)(a)(vi) as we believe this is an important operation that requires a specific procedure. (vii) covers other startups. We support adding planned or unplanned shutdown to (vii) if L&I thinks that is not already included in (vi) or (vii) as written in the original WAC. In section (1)(c)(i) we propose adding "highly hazardous" in front of chemical to focus on process safety risk. In section (1)(c)(iv), we believe "quality control" better represents that intended or desired action. "Verification" implies measurement while "Quality control" implies actions to ensure that composition and levels of raw materials are within expected ranges. We believe the original WAC language was sufficient and clear. Section (1)(c)(iv) is redundant with section (6)(a) and should be deleted.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. Removing "initial" from WAC 296-67-327(1)(a)(I) clarifies L&I's intent that any startup presents safety hazards. The use of "verification" in WAC 296-67-327(1)(c)(v)[not (iv)] means that the employer can attest to the level of precaution necessary to execute the procedure, based on raw materials and hazardous chemical inventory levels. The term, "Highly hazardous" in the context of the PSM rule has, until this revision, been limited to those chemicals listed in the table in appendix A. Removing the word, "highly" from this provision of the rule more clearly conveys the intent that any quantity of a hazardous chemical has serious

	consequences to worker safety and health. Subsections (1) and (6) are not redundant as they set separate requirements, (1) is a requirement for operating procedures generally, and (6) is focused on the safe work practices as part of an operating procedure.
We understand that a current operating practice is in an operating procedure. The proposed rule introduces a new term, “safe operating practices”, by changing the order of the words and grammar. This confuses the requirement. Industry has a common understanding for operating procedures, operating practices and safe work practices as listed in (6) but does not have a common understanding for a safe operating practice.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. The revised rule clarifies the manner in which safe practices are, and always have been, applied during the execution of an operating procedure. The language in the revision is intended to clarify current requirements. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA’s approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
We agree with the inclusion of “handling of leaks, spills, releases…”, however we believe that this requirement would be better handled in Safe Work Practices. Procedures require a specificity that can’t be determined for all possible scenarios resulting in a leak, spill, or discharge. A Safe Work Practice can aid qualified operators and outline considerations for risk analysis and decision making in these situations. Some sites have developed Leak Response Protocols for this purpose.	Part B was created to specifically apply to refineries only and replicates many parts of the current PSM rule. Part B is dedicated to oil refineries and standards that are currently in place have been moved or copied into this new section to provide a dedicated space for refinery regulations to be housed and found.
We recommend moving the requirement for a Hot Work Procedure from the Hot Work Permit Section to the Safe Work Practices portion of the Operating Procedures Section. WSPA understands what Lockout/tagout (LOTO) means but does not understand what tasks requiring LOTO means. Would cleaning a heat exchanger be a task requiring LOTO that would need a safe work practice? Such tasks can be managed on a work list. LOTO is an important safe work practice. A broader requirement provides no process safety benefit.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA’s approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few

Having a safe work practice for opening process equipment or piping makes sense to protect employees. Sometimes, systems will need to be decontaminated to do this. Sometimes systems are safe to open but require cleaning for weld quality or to be acceptable for disposal. We believe that decontaminating should not be included because it confuses the purpose of the safe work practice which is to protect workers.	areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. A separate "Hot Work" section is warranted as it is one of the fundamental concepts in the industry; and has its own section in the current rule as well. L&I believes that approaching safe work procedures should be in the context of performing a task with the minimum risk to people, equipment, materials, and processes. L&I recognizes that there are situations where opening equipment may not require decontamination.
We believe that the requirement for employee participation in the conduct and development of PHAs and other elements of PSM is adequately covered in the Employee Participation section of the original WAC rule.	Thank you for the comment. L&I has made the suggested change to remove the repetitive language regarding employee collaboration from multiple sections to streamline the rule and align with Cal/OSHA language.
WAC 296-67-331 Training.	
The proposed rule at WAC 296-67-331(1)(a) and (b) includes a requirement to train "employees of contractors" in an overview of the process and in applicable operating procedures. This is an infeasible requirement that violates Washington law distinguishing legal obligations of employers and independent contractors. The requirement is redundant and inconsistent with the current rule, as contractor training is already addressed elsewhere in the rule, *see* WAC 296-67-335. Thus, the reference to "employees of contractors" in this part should be deleted.	Thank you for the comment. L&I recognizes that contractors are not permitted to conduct operating procedures, so to ensure clarity on who must be trained and when the following changes were made to subsection (1). The adopted rule language has been amended as follows: (1) Initial training. (a) Each affected employee involved in the operation of a process, and each affected employee prior to working in a newly assigned process~~, including employees of contractors,~~ must be trained in an overview of the process and in the applicable operating procedures in <u>WAC 296-67-327</u>. (b) Each affected employee involved in the maintenance of a process, and each affected employee prior to performing work within a newly assigned process, including <u>affected</u> employees of contractors, must be trained in an overview of the process and in the hazards and safe work practices related to the process.
WAC 296-67-331(4)(b) - (5) should also be revised because it purports to require training employees on all aspects of WAC 296-67 even though employees may have no interaction or involvement with certain aspects of the PSM rule. This overly burdensome requirement should be narrowly tailored to comply	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate

with the APA by limiting training to those sections of WAC 296-67 which "affect" such employees.	in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. The section of the rule outlines what training affected employees must take. Subsection (4) and (5) require the employer to develop, implement, and maintain procedures on those trainings including what must be done to become a qualified operator.
Proposed WAC 296-67-331(a)-(b) and 296-67-335(2)(c)-(e) improperly purport to govern mandatory bargaining subjects that are within the exclusive scope of the National Labor Relations Act (NLRA). For all mandatory bargaining topics, the proposed rule cannot give employers or employee representatives expanded or greater rights than those lawfully bargained for by the employers and unions. L&I should revise these sections such that they do not unlawfully intervene in federally regulated labor-management relations. *See, e.g., Oil, Chem. & Atomic Workers Local Union No. 6-418, AFL-CIO v. N.L.R.B*., 71 F.2d 348, 360-61 (D.C. Cir. 1983). Proposed WAC 296-67-335(2) and (3), as drafted, also create legal conflicts with the NLRA and Washington State's workers compensation laws regulating employee and contractor supervisory obligations.	The authority of the proposed rule comes from 49.17 RCW, Washington Industrial Safety and Health Act. The purpose of 49.17 RCW is to "ensure safe and healthful working conditions" for individuals working Washington. Furthermore, the purpose of 49.17 RCW is to "create, maintain, continue, and enhance the industrial safety and health program of the state, which program shall equal or exceed the standards prescribed by the Occupational Safety and Health Act of 1970." Regulating Washington state employment conditions related to occupational safety and health is within the mandate of the Washington Industrial Safety and Health Act. The intent of the proposed WAC 296-67 is not to interfere with the relationship between the Employer and Employee Representative. WAC 296-67-307(7)'s definition of "employee representative" allows for "an employee-designated representative in the absence of a union." The definition also recognizes an "employee representative as being a "union representative, where a union exists." Therefore, in workplaces that do not have unions, an employee-designated representative could effectuate proposed WAC 296-67's requirements.
Anti-retaliation must be included in the training requirements to inform workers who speak up about their safety or their workers, raise concerns. Their voices are critical to ensuring that workplaces and communities are safe.	This is addressed under the WAC 296-67-315, Employee Collaboration. WAC 296-67-315(5) requires employers develop, implement and maintain effective stop work procedures, which are to include that "employees who exercise stop work authority as described in this part are protected from intimidation, retaliation, or discrimination." WAC 296-67-315(5)(b) also requires an anonymous complaint process. In addition, WAC 296-67-331(5) requires employers ensure all affected employers are trained on all elements in the rule. As such, we believe this is issue is already addressed in the rule.

	In addition, retaliation is already prohibited under Washington law. Workers may file a complaint with L&I alleging retaliation or discrimination when raising safety and health complaints in the workplace.
We believe the original WAC language in subsection (2) is sufficient. The original WAC language correctly and appropriately addresses refresher training of employees involved in operating a covered process. We suggest adding similar training for maintenance employees since their training has been removed from Mechanical Integrity. The proposed language "supplemental training" introduces confusion. Based on our understanding of the proposed rule's meaning of the term, "supplemental training" is addressed during the management of change process. One time training needs are directly addressed by management of change. Repetitive training needs are incorporated into operating procedures, as required by management of change. Contractors who operate a covered process or perform routine maintenance are included here since their training needs are different than the larger contractor population addressed in the Contractor section.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. Refresher and supplemental training ensures that all employees are working with the same understanding of the process conditions and procedures.
The original WAC language is well understood and appropriately addressed the need for Training Documentation. The proposed changes do not materially change the intent and only add confusion, for example, changing the title "Training Documentation" to "Training Certification". We agree with the addition of "successful completion" of the training. We do not understand the value of requiring a signature from the person who administers the training due to the variety of training deliveries utilized (e.g., computer-based, face-to-face, seminars, mentoring).	Thank you for your comment. The adopted rule provides updates to the current PSM standard to ensure proper documentation of training. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. A signature of the person administering the training helps to ensure transparency and accountability in the training. Signatures may be electronic.

We believe that under section (4)(b), the term “job skill levels” is subjective. “Job tasks” provides a common understanding of the term. Changing the term “protect employee safety and health” to “operating procedures and safe work practices” ensures the focus remains on process safety rather than occupational safety.	L&I will not be making the suggested changes to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA’s approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
We agree that training of affected employees in an overview of PSM elements is value-added. We support the requirement for training of PSM-related teams in appropriate methodologies and techniques applicable to that team. For example, the PHA team should be knowledgeable in the principles of hierarchy of controls and human factors. We believe that it provides more clarity and ensures consistency to present this requirement in the Training Section rather than distributed throughout the rule.	Thank you for your comment. This did not result in any change to the adopted rule language.
WAC 296-67-335 Contractors.	
Revert to original WAC language: (1) Application. This section applies to contractors performing maintenance or repair, turnaround, major renovation, or specialty work on or adjacent to a covered process. It does not apply to contractors providing incidental services, which do not influence process safety, such as janitorial work, food and drink services, laundry, delivery, or other supply services. The deletion of the word “or” between maintenance and repair creates an unexplained and unnecessary distinction between a maintenance contractor and a repair contractor. Additionally, the Proposed rule is confusing around supply services since it is listed in the applicable and nonapplicable section. WSPA believes it should only be in the nonapplicable section. WSPA believes that the original WAC language appropriately describes maintenance or repair contractors.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA’s approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. The words ”maintenance” and “repair” can be distinct from one another.

We believe section (2)(a) should be deleted. By incorporating the High Hazard Facility Workforce requirements into the PSM rule, the High hazard facility rule is expanded with additional requirements for training, employee collaboration and compliance audits. Additional requirements should not be added by incorporating rules by reference into the PSM rule, but rather by rulemaking that is applicable to all facilities within the scope of the high hazard facility workforce rule. Regarding section (2)(b) of the proposed rule, the original WAC language focused on the safety performance of the contractor versus an evaluation of the contractor's injury and illness prevention programs which is overly broad and could be interpreted to include occupational and industrial hygiene health and safety programs and not the process safety related safe work practices listed in Operating Procedures section. Further in section (2)(b), the proposed addition of the language, "…and must require that its contractors and any subcontractors use a skilled and trained workforce" raises co-employment issues. Additionally, "skilled and trained" is not defined. Accreditation methods and requirements are covered under another original WAC rule. In section (2)(c), we believe that the proposed addition of the language "and must ensure that the contractor has informed each of its employees of the following:" and the associated sections (i), (ii), and (iii) raises co-employment issues. The employer would also be obligated to maintain employment records regarding the same. The provisions of this section would expose covered entities to potential joint employer liability under a wide range of employment-related laws that include federal and state wage and hour law, federal and state tax law, labor law, and workers' compensation laws. Regarding section (2)(e) of the proposed rule, we do not object to the addition of "… and document …" from proposed section (2)(e), which is consistent with original practice and a natural expectation with regard to demonstrating compliance. We believe that section (3)(a) and the addition of sections (3)(a)(i), (ii), and (iii) in the Proposed Rule duplicate the	Thank you for the comment. In order to align with Cal/OSHA language and provide updated references to Washington rules on high hazard facility workforce, the rule has been amended, subsection (2)(a) as proposed has been removed, the remainder the section renumbered to now read: (2)(a) When selecting a contractor, the refinery employer must obtain and evaluate information regarding the contract employer's safety performance, including programs used to prevent employee injuries and illnesses, and must require that its contractors and any subcontractors use a skilled and trained workforce pursuant to chapter 296-71 WAC. Other changes were not made to this section due to aligning with Cal/OSHA language. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to implement similar rules. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.

requirements of the original WAC sections (3)(a) and (3)(b) and are therefore unnecessary and should be deleted. Note that section (3)(c) of the original WAC language is the same as proposed section (3)(b) in the proposed rule. The proposed edits introduce unnecessary and undefined changes. The word “unique” versus “specific” should remain as in the original language.	
Remove (4). This section is not required because the Trade Secret section has a similar section that refers to all persons to whom information is made available to.	L&I will not be making the suggested change to the adopted rule. L&I has found it important that certain information in the rule is reiterated to ensure clarity on the various provisions on the rule, when and how they apply.
We believe employee collaboration is redundant here and is already covered in the Employee Participation Section of this proposed rule.	Thank you for the comment. L&I has made the suggested change to remove the repetitive language regarding employee collaboration from multiple sections to streamline the rule and align with Cal/OSHA language.
WAC 296-67-335(2)(c). The proposed addition of the language ‘and must ensure that the contractor has informed each of its employees of the following:’ and the associated sections (i), (ii) and (iii) raises co-employment issues. The original WAC language correctly and appropriately assigns the responsibility of informing the contract employees to the contract employer. Additionally, sections 2(c)(i) and 2(c)(ii) are already encompassed in the original WAC language. Section 2(c)(iii) is covered under the original WAC section (2)(c).	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA’s approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. WAC 296-67-335(2)(c) requires the refinery employer to inform the contractor and ensure the contractor has informed each of its employees of the following: (i) Potential process safety hazards associated with the contractor's work; (ii) Applicable refinery safety rules; and (iii) Applicable provisions of this chapter, including the requirements of WAC 296-67-367 Emergency planning and response, and WAC 296-24-567 Employee emergency plans and fire prevention plans. As the refinery owner is the knowledgeable party in regards to process safety hazards and the refinery rules, ensuring contractors are informed of these is

	the refinery owner responsibility. These responsibilities exists for any other employer who controls or created hazards that a contractor or other employer's employees may be exposed to. This requirement ensures clarity and improves accountability by both refinery employers and contractors. Similarly, ensuring contractors are aware of applicable provisions of the rules references is necessary to protects both the safety and health of contractor employees and refinery employees,
WAC 296-67-335. It has become even more important to include contractors in your rules as your proposal does. It is our understanding that contractors now being used by some refineries to serve as full time maintenance staff. Your DOSH staff member acknowledged this refinery practice in its opening remarks for the public comment hearings.	Thank you for your comment. This comment did not result in a change to the adopted rule language.
Employee training is essential to providing the foundation to ensure active and effective employee participation. Without providing training to employees on all the elements of the PSM regulation and how the pieces fit together, the program won't take hold. In many instances, employees are being asked to sign off on things they have no expertise in. There's a perception, on the part of the companies that workers don't really want to be involved in the PSSRs and MOCs and some of these other processes and I think again it comes from a place of not really understanding what their role is**.** Training is critical to provide this understanding.	Thank you for your comment. This comment did not result in a change to the adopted rule language.
WAC 296-67-339 Pre-startup safety review.	
We believe that the original WAC language in (1)(a) and (b) is sufficient and that pre-startup safety reviews (PSSR) are necessary when new or modified processes are being started up, but not when equipment is maintained. We recognize that Operational Readiness Reviews after turnarounds are beneficial and that using existing PSSR processes could be a method employed to ensure operational readiness tasks. We believe more flexibility should be provided for starting up facilities that fall outside of MOC required PSSRs. Operational Readiness Reviews include some activities that may be included in an MOC PSSR, such as verification of work	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.

completion and quality assurance and procedure reviews prior to starting up a process unit.	
We agree that people with appropriate knowledge and experience should be involved in conducting a PSSR. However, essential operations or maintenance personnel may not have knowledge of “engineering”. The proposed wording would provide that persons familiar with the operation or maintenance of the facility will be part of the PSSR. The Employee Participation Section in the original WAC rule provides for employees to be involved in PSM elements and does not need to be duplicated here.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. . L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA’s approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
We believe employee collaboration is redundant here and is already covered in the Employee Collaboration Section of this proposed rule. In section (1)(c), access to documentation required to be developed under this standard is already specified in the original WAC language in Employee Participation and should not be duplicated here.	Thank you for the comment. L&I has made the suggested change to remove the repetitive language regarding employee collaboration from multiple sections to streamline the rule and align with Cal/OSHA language.
WAC 296-67-343 Mechanical integrity.	
L&I’s proposed mechanical integrity amendments impermissibly exceed the federal PSM standard without sufficient justification, thus violating the APA.18 For example, the proposed requirement that “once an equipment deficiency or failure mechanism is identified,” “substantially similar equipment in similar service must be evaluated for the same deficiency or failure mechanism” is subjective, overly broad, and does not provide any reasonable boundary on which “substantially similar equipment” would require evaluation. There was no sufficient legally factual support for this addition that violates RCW 34.05.328(1)(h-i), and it imposes an undue burden on refineries to evaluate equipment that may be in similar service but have no indicia of similar deficiencies. This provision should be deleted or amended to limit the	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA’s approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.

mechanical integrity evaluation to instances where there is an "unexpected" equipment deficiency/failure or the subsequent evaluation to substantially similar equipment in similar service *and that* has indicia of similar risk of such deficiency or failure. L&I should not force refineries to exert compliance resources on equipment that has no similar indicia of deficiency or failure.	L&I completed a Cost-Benefit Analysis (CBA) that addresses why the rule is needed to achieve the goals of WISHA which provides the underlying authority for the rule. Additionally the CBA and least burdensome analysis address where the adopted rule differs from federal standards what L&I's authority is and includes evidence as to why the adopted rule needs to be different. This includes that federal PSM regulations, like Washington's rules, have not been updated since 1992 and there have been changes in the industry and continued worker injuries and fatalities.
The original WAC language in subsection (1) is specific to equipment associated with high hazards. We are concerned that the current definition of "process" and scope is overly broad and the inclusion of all equipment into a mechanical integrity program would not achieve the goal of reducing the risk of accidental releases of highly hazardous chemicals. Including gasoline pump for fueling vehicles in the mechanical integrity program does not address high hazard concerns with the potential of catastrophic incidents. We do recognize that there may be specific equipment that should be added in the applicability of the section (e.g., compressors and process heaters).	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with California regulations. The complexity of equipment in a refinery demands a robust mechanical integrity program that includes preventative assessments of process equipment. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
The original WAC language is sufficient. We are unclear as to the intent of section (1)(b). If the intent is to protect the worker during "first break" that issue is already addressed in the section on Operating Procedures which requires a safe work practice for opening process equipment or piping. If the intent is more generally related to occupational safety associated with maintenance activities, then that issue is addressed by occupational safety rules and work practices, such as job safety analyses (JSAs).	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. The intent of subsection (1)(b) is to protect workers by providing clear instructions for performing maintenance activities on the process equipment, consistent with the PSI for the process.

The original WAC language in subsection (3) is sufficient with minor edits for clarity. As discussed in other sections, we are concerned that broadening applicability as suggested in the proposed rule will detract from prevention and/or mitigation of process safety hazards. The definition of "process equipment" and "process" in the proposed rule includes equipment that is not involved with the handling of highly hazardous chemicals (e.g., cooling tower). We have added the reference to section (1) to clarify applicability of these requirements. Section (2)(b) was broken into sub-bullets that are contained in the original WAC language and does not need to be changed. Additionally, RAGAGEP was clarified in our comments to include the OSHA interpretation of RAGAGEP which includes internal standards that are equal to or more stringent than RAGAGEP. We believe that inspection results should be considered in determining inspection frequencies and recommends adding "or inspection history" at the end of section (3)(c), as implied in section (2)(c) in the proposed rule.	The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. The rule language was amended in subsection (2)(c) and (d) to further align with Cal/OSHA language and provide clarity on what is expected for inspections and recordkeeping. (2)(c) Inspections and tests must be performed more frequently if ~~determined to be~~ necessary, based on the operating experience with the process equipment. (2)(d) The employer must retain documentation, including certification, where applicable, for each inspection and test that has been performed on process equipment. The documentation, including certification, where applicable, must identify the date of the inspection or test, the name of the person who performed the inspection or test, the serial number or other such identifier of the equipment on which the inspection or test was performed, a description of the inspection or test performed, and the results of the inspection or test.
The original WAC language in subsection is sufficient with minor edits for clarity. Preventative maintenance requirements do not belong in the Equipment deficiency section of the rule. They belong in Mechanical Integrity section (1) Written Procedures of the proposed rule. Section (3)(b) is not necessary in the proposed rule. (3)(a) already requires safe operation.	Thank you for your comment. Part B was created to specifically apply to refineries only, and replicates many parts of the current PSM rule. Part B is dedicated to oil refineries and standards that are currently in place have been moved or copied into this new section to provide a dedicated space for refinery regulations to be housed and found. Preventative maintenance is a critical part of a PSM program. To ensure the intent of the rule is clear the subsection was amended as follows: (3) Equipment deficiencies. ~~(a)~~ The employer must correct deficiencies to ensure safe operation of process equipment, including any temporary repairs. Repair methodologies and

	preventative maintenance must be consistent with RAGAGEP or more protective internal practices. ~~(b) The employer must task the necessary means to ensure temporary repairs on process equipment do not fail and allow the safe operation of that equipment until a permanent repair is made.~~
The original WAC language is sufficient. The added language in sections (4)(a) and (4)(b) is covered in the Process Safety Information (PSI) Section of the original WAC language. Section (4)(e) of the proposed rule is stated under the PSI Section of the standard and should not be duplicated in this section. Section (4)(f) in the proposed rule does not seem to fit under "Quality Assurance". The requirement to inspect "substantially similar equipment" is subjective and overly broad. For example, the premature lifting of a relief valve should not require inspection of all relief valves in the facility. Under the performance-based nature of the original standard, when appropriate, similar equipment in similar service is evaluated. Refinery inspectors have full time jobs inspecting equipment and evaluating equipment conditions including assessing known corrosion mechanisms. When an inspector finds expected general corrosion as anticipated by the employer's inspection program there is no reason to evaluate similar equipment. If the requirement in (4)(f) remains in the rule, it should focus on unanticipated equipment deficiencies and the language should be moved to the equipment deficiency section and changed to be, "Once an equipment deficiency or failure mechanism is identified that is unanticipated by the employer's mechanical integrity program and could contribute to a process safety incident, substantially similar equipment in similar service must be evaluated for the same deficiency or failure mechanism. Section (4)(g) is redundant here and is already covered in the Employee Collaboration Section of this proposed rule. WAC 296-67-343(4)(f) This subsection does not appear to fit under quality assurance. The requirement to inspect "substantially similar equipment" is subjective and overly broad. The premature lifting of a relief valve should not require	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. L&I has made the suggested change to remove the repetitive language regarding employee collaboration from multiple sections to streamline the rule and align with Cal/OSHA language.

inspection of all relief valves in the facility. Under the performance-based nature of the original PSM rule, when appropriate, similar equipment in similar service is evaluated. If the requirement in WAC 296-67-343 (4)(f) remains in the proposed regulatory language, it should focus on unanticipated equipment deficiencies and the language should be moved to the equipment deficiency section.	
WAC 296-67-347 Damage mechanism review.	
We believe it makes sense to review DMRs as part of a major change, provided that Major Change is appropriately defined, and that introduction of a new damage mechanism should trigger performing or updating a DMR.	The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington Where a damage mechanism exists, a major change triggers a Damage Mechanism Review (DMR). This definition is necessary to clarify the triggers specific to major changes within a process. Major changes can introduce new process safety hazards that these regulations aim to minimize or eliminate.
Section (6) is already stated in the PHA section, and it does not need to be repeated.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. . L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.

This requirement needs to provide for more flexibility than the proposed rule. Employers already have processes in place for developing detailed corrosion control documents. Corrosion control documents include corrosion monitoring locations and damage mechanisms for corrosion loops. A Damage Mechanism Review could be a compilation of existing corrosion control documents with a summary, or a stand-alone Process Flow Diagram level study that aligns with corrosion control documents. Employers need to be able to determine the best way to conduct and document damage mechanism reviews consistent with RAGAGEP, as mentioned above. As mentioned above, API has guidance on Corrosion Control Documents and DMRs, therefore, a requirement that incorporates RAGAGEP should be adequate. It is not necessary to include instructions in the Rule. It is better to allow employers to improve their procedures over time as the RAGAGEP improves. The detailed requirements and steps need not be listed because the RAGAGEP provides details. It may be detrimental to provide specifics in the rule because, this can create conflict with RAGAGEP, especially as improvements are made.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. L&I expects refinery employers to have corrosion control documents, monitoring locations and an existing process for evaluating damage mechanisms. Performing a damage mechanism review ensures that hazards they cause are properly identified and analyzed and effective safeguards are in place to control the hazards and/or new systems. A DMR also provides information about the impact process conditions have on equipment, contributing to a predictive system for PSM compliance. L&I expects reviews to be consistent with RAGAGEP.
We agree with L&I about including contractors who are regularly operating and maintaining processes in requirements for the employer to provide information. These are the contractors who are affected and benefit from the information.	Thank you for your comment. This comment did not result in a change to the adopted rule language.
Section (14) is redundant here and is already covered in the Employee Collaboration Section of this Proposed Rule.	L&I has made the suggested change to remove the repetitive language regarding employee collaboration from multiple sections to streamline the rule and align with Cal/OSHA language.
The tragedy in 2010 at Tesoro, the PHA covered that process correctly identified the most likely damage mechanism, high temperature, and they completely dismissed it, just like they didn't have to look for it, didn't have to worry about it, when the recommended practice that deals with that damage mechanism clearly says if your temperatures or pressures anywhere near the damage occurs, you have to look for it. It	Thank you for your comment. This comment did not result in a change to the adopted rule language.

says that if that equipment has to come down for maintenance, you have that opportunity to look inside. The damage was so profound you didn't need any special skill as an inspector to see it. You could have trained the pipe fitters who did that work to just look inside with a flashlight. It occurred right where the recommended practice said it would occur in the heat mechanism adjacent to long weld seals. I think HCA could have prevented that if it had forced a more comprehensive review and revalidation of an existing PHA that was done years ago.	
WAC 296-67-351 Hot work.	
The approach of adding hot work to the list of safe practices would place all of the safe work practices into one location within the regulation.	L&I will not be making the suggested change to the adopted rule section. Current rules have a dedicated section regulating hot work, as do the California regulations L&I worked diligently to align with.
In section (2)(c), the name of the person performing the hot work is unnecessary. The person performing the hot work may change during the life of the permit which would needlessly invalidate the permit and create an unnecessary burden and distraction for the operator issuing the permit.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. Further, employers are already required to understand the limitations of a permit because work conditions can and do change.
Section (4) is redundant here and is already covered in the Employee Collaboration Section of this Proposed Rule.	L&I has made the suggested change to remove the repetitive language regarding employee collaboration from multiple sections to streamline the rule and align with Cal/OSHA language.
WAC 296-67-355 Management of change.	
There are two impermissible proposed changes to the Management of Change ("MOC") requirements. The first is expanding the regulation to "potential" process safety impacts	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as

that would include “worsening” an existing process safety hazard. “Potential” and “worsening” are both impermissibly vague and infeasible in application. Further, they do nothing to ensure that less burdensome alternatives do not exist to accomplish minimizing catastrophic process safety incidents.	much as possible where it was determined Cal/OSHA’s approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
We suggested the addition of (2)(b)(i) and (ii) in discussions with L&I. We wanted L&I to understand that all MOCs evaluate process safety hazards and that it wasn’t necessary to be a trigger for Major Change. It is simple for an employer to address process safety hazards of the addition of a piping component without labeling it as new or worsening. Obvious process safety hazards that need to be managed such as ensuring the pipe component is operated at the correct temperatures and pressures and that it is monitored for corrosion, can be put in place. It is unclear if it is a new hazard because it is an additional component, or if it is an existing hazard because it is just like the other piping components.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA’s approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
Revert back to the original WAC language, for this section with a change in the referenced PSI section underlined below: (4) If a change covered by this section results in a change in the process safety information required by WAC 296-67-319, such information shall be updated accordingly. WSPA believes that the original WAC language was sufficient and included the proper reference back to the section that applied.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with California regulations. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA’s approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.

For subsection (7), revert to the original WAC language, for this section with the highlighted changes. “If a change covered by this section results in a change in the operating procedures required by WAC 296-67- 327, such procedures shall be updated prior to start-up of the change.” We believe that the original WAC language was sufficient and included the proper reference back to the section that applied. Additionally, procedures should be updated prior to start-up. Implementation could be the start of construction and the operating procedures do not need to be updated prior to construction.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA’s approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. If a change covered by this section results in a change in the operating procedures required by WAC 296-67-327, such procedures shall be updated prior to start-up of the change.
We believe that (8) is not needed as this item is already addressed in the Employee Collaboration section of the Proposed Rule.	L&I has made the suggested change to remove the repetitive language regarding employee collaboration from multiple sections to streamline the rule and align with Cal/OSHA language.
Human factors The piece about employee staffing, minimum staffing, I would really suggest that the upgrades to that be taken into consideration because as was mentioned with emergency response, the companies are going to look at how much is enough just to keep the unit running. When it comes time when there's an issue, that staffing needs to be sufficient for that. Can't just look at everything's fine, it's 10:00 on a weekday morning when you have all kinds of staff available. It needs to be staffed and looked at as what things look like at 2 a.m. on a Sunday. That's the staffing level that needs to be preserved. And it becomes a bigger issue because when we were talking about mutual aid, if this refinery starts cutting people, and the next one starts cutting people, and the third one does, where do the people come from, not just to look after their own facility, but we've got to be able to release people to respond to another.	Thank you for your comment. This comment did not result in a change to the adopted rule language.

WAC 296-67-359 Management of organizational change.	
Subsection (1). We agree, with the concept of managing organizational change for such changes that have an impact on process safety. The definition for Organizational Change proposed by us is: Organizational Change. A change to organizational structure, employee roles and responsibilities and/or classification levels that has the potential to impact process safety of a covered process.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
Subsection (2). Some changes in the organizations mentioned do not have an impact on process safety and need not be covered in an MOOC. The definition we proposed addresses that issue. Engineers working on capital projects for optimization could be eliminated without having an impact on day-to-day support for safe operation.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
Recommend removal of (5). We believe that the regulation is applicable to the employer, not only the refinery manager and requiring certification by the refinery manager is not required by other WAC rules. This level of detail is unnecessary.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.

Section (8) is duplicative of the Employee Collaboration section.	L&I has made the suggested change to remove the repetitive language regarding employee collaboration from multiple sections to streamline the rule and align with Cal/OSHA language.
WAC 296-67-363 Incident investigation – Root cause analysis.	
Following multiple wildlife firefighter fatalities, the U.S. Forest Service prioritized improving worker safety and encouraged and established the mindset and protocols to reduce accidents and incidents. The actions taken ranged from analyzing risks to empowering employees to speak up without retribution. Incident investigations including root cause analyses were practices we quickly adopted.	Thank you for your comment. This comment did not result in a change to the adopted rule language.
Retain the original title of incident investigation. We believe that determination of root cause is inherent in the investigation process and a specific reference is problematic because: • Term not defined in this regulation; and • Different methodologies use different definitions of the term and some methodologies do not use the term at all.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
See above for discussion on "root cause." Not all incidents will have underlying management system failures or organizational and safety culture deficiencies.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA and Inspection experience has demonstrated that systemic deficiencies do exist and contribute to incidents. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.

Replace language with: (6) The incident investigation team must develop recommendations to address the findings of the investigation. The team must consider including interim measures that will prevent a recurrence or similar incident until final corrective actions can be implemented. Interim safety measures may be considered outside of the investigation or may not be necessary. Normally interim safety measures are implemented well before investigations are completed. The Mechanical Integrity Section already requires the employer to correct deficiencies or assure safe operation. We propose that the investigation team considers interim measures already put in place and the necessity of making additional or new interim measure recommendations.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. If the incident involves an interim safety measure, the team is tasked with determining the role, if any, the safety measure played in the incident. An effective investigation is one where the team has the latitude to evaluate anything that may have contributed to an incident.
Replace with this language: (7) The team must prepare a written investigation report within 90 calendar days of the incident. If the team demonstrates in writing that additional time is needed due to the complexity of the investigation, the team must prepare a status report within 90 calendar days of the incident, and every 30 calendar days thereafter until the investigation is complete. The team must prepare a final investigation report within five months of the incident, unless infeasible to do so and DOSH approves the employer's written request for an extension. We recognize and agree that the investigation process should not languish. It is problematic to require a final investigation within 5 months when there is no process in place for an employer to ask for an extension. There may be complex investigation and analysis that extends beyond the 5-month period.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
We believe the original WAC language is sufficient, and that subsection (8) should revert back.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was

We also believe the terms “direct, indirect and root” are specific to a certain methodology and should not be specified in a performance-based rule. An incident investigation team reviews many documents of various types. Therefore, the reference to certain types of documents such as DMR(s), PHA(s), SPA(s), and HCA(s) should be deleted.	supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. Each type of cause is important in the investigation and ensures an accurate and complete analysis. The team reviews the information from each of these analyses, each of which could provide important information relevant to the incident. The team identifies and documents information from any of these analyses that are relevant to the incident. For example, if pipe corrosion was a potential factor in an incident, the investigation team would be required to review the Damage Mechanism Review (DMR) analysis and document whether the DMR findings showed that the pipe was subject to corrosion and whether the employer properly implemented the DMR report’s recommendations.
Replace language as follows: (10) The employer must complete an HCA in a timely manner for all recommendations that result from the investigation of a process safety incident and are deemed to be a major change. Hierarchy of controls may or may not apply to all incident investigation recommendations. In instances where a recommendation is a major change, a hierarchy of hazard control analysis will be completed. For example, if there was a finding from an incident investigation related to a management system deficiency (e.g., the process for updating operating procedures), there would be no need to apply hierarchy of control principles. The analysis would be part of the Major Change MOC and would not require a separate report attached to the Investigation Report.	L&I will not be making the suggested change to the adopted rule language. The adopted language aligns with Cal/OSHA. There is a slight difference in adopted rule in Washington uses the term “process safety incident” instead of “major incident” throughout the standard. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA’s approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
Revert to original WAC:	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. Information from a contractor whose job tasks and work were affected by the incident is critical in reaching

(11) The report shall be reviewed with all affected personnel whose job tasks are relevant to the incident findings including contract employees where applicable. We believe the original WAC language is sufficient. Reviewing the incident with contractors whose work assignments are within the facility where the incident occurred but whose tasks are not relevant to the findings would have no meaning and the contractors would likely not understand the information. For example, reviewing a complex process safety incident report with the janitor or the concrete repair contractor would not support process safety. The original WAC language correctly focusses communication on "affected employees". Further, we believe care needs to be taken to protect and secure proprietary and confidential information. This section should not require the production of privileged and confidential material. Therefore, we propose that the language for this section revert to the original language present in the existing regulation.	the root cause. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
We believe it is problematic to provide draft reports to DOSH. Draft reports may have inaccuracies or be incomplete or misleading. Employers are very thorough in reviewing investigation reports for major incidents. There are a number of subject matter experts and reviewers responsible for technical review and for implementing corrective action involved in the review. This helps ensure that the conclusions are correct and that the recommendations are feasible and would effectively reduce the likelihood of a recurrence. The investigation team should feel free to share ideas and theories without concern that the regulator will see these ideas prior to being fully developed. Additionally, the interim report required in (7) provides available information to DOSH.	L&I recognizes that the draft incident reports may have inaccuracies or be incomplete or misleading. However, sharing information amongst the investigation team is critical in determining root cause(s) and contributing factors. The intent and success of PSM is to collaborate and share information with DOSH when investigating incidents.
This subsection (13) is duplicated in the employee collaboration section.	L&I has made the suggested change to remove the repetitive language regarding employee collaboration from multiple sections to streamline the rule and align with Cal/OSHA language.
WAC 296-67-367 Emergency planning and response.	

WAC 296-67-367(1)(d) goes beyond the proposed scope of the PSM rule to address non-process safety hazards. The proposal to develop, implement, and maintain an emergency response plan for "any other emergency" is vague and infeasible on its face. The proposal would require a refinery to develop plans to address *any* type of medical emergency regardless of whether it has anything to do with refinery operations. This overly broad requirement would also make the obligations for written plans and sharing with external emergency response organizations, *see* proposed WAC 296-67-367(2)-(3), overly burdensome and infeasible. The hypothetical response preparations for refineries would be never-ending. Thus, subpart (d) of the proposed rule should be removed.	Refineries must comply with the minimum requirements under WAC 296-824-100 to protect the safety and health of their employees during a response to a hazardous substance releases in your workplace or any other location. The rule language in chapter 296-67 WAC Part B clarifies the requirements that are already in the current chapter 296-67 WAC rule.
Remove subsection (2), original WAC 296-824, Emergency Response already requires that a "written plan that requires coordination between emergency response participants, and contains procedures, criteria, and other information that will be applied to emergency response operations. Each employer's plan should be compatible with local and state plans. There is no reason to confuse or add to the original requirements. Remove subsection (3). The documentation requirements in the Proposed Rule may present conflicts with federal requirements in 49 C.F.R. §1520 for the protection of Safety Sensitive Information. 49 C.F.R. § 1520.5 defines "Safety Sensitive Information" to include any "security program or security contingency plan," as well as any "security incident response plan" and "threat information." The documentation requirements in this proposed rule may require or result in the disclosure of covered Safety Sensitive Information to unauthorized third parties. In turn, that disclosure could result in risk of harm to employees and the surrounding community.	As the comment indicates, compliance with chapter 296-824 WAC and compatibility with state and local plans is a current expectation. Some refineries have their own fire brigades who may be the first responders when an incident occurs but might need to coordinate with other first responders if an incident requires additional resources. The adopted rule simply requires the employer to address emergency response activities that may be needed if the employer is unable to respond within their own resources.
This section duplicates the requirement in the Employee Collaboration section.	L&I has made the suggested change to remove the repetitive language regarding employee collaboration from multiple sections to streamline the rule and align with Cal/OSHA language.

WAC 296-67-371 Compliance audits.	
The proposed rule currently does not require that the audit report include documentation of all deficiencies and corrective actions taken. We urge Washington L&I to require documenting all deficiencies identified in addition to recommendations and corrective actions needed and taken to help inform the regulator that facility management is continually working to identify hazards and reduce risks. This information combined with enhanced indicator data would help the prevention of catastrophic incidents for both employers and the regulator. We also recommend Washington establish a well-funded, well-staffed regulator with a compensation system to ensure L&I has the ability to attract and retain a sufficient number of employees with the necessary skills and experience to ensure regulator technical qualifications. We have frequently noted that a well-funded and well-staffed regulator plays a critical role in reducing the risk of catastrophic incidents by ensuring that petroleum refineries are effectively identifying hazards and reducing risks.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. The adopted language in this draft requires the audit findings be documented in a written report; and the employer must respond in writing to questions and comments within 60 days. The intent is that "audit findings" include deficiencies.
Replace language with: (2) The compliance audit must be performed by at least one person with expertise in the requirements of the section under review. As part of the compliance audit, the employer must consult with operators with expertise and experience in each process audited and must document the findings and recommendations from these consultations in the written report. The report must state the qualifications and identity of the persons performing the compliance audit. With new PSM Elements, employees may have experience but not expertise in the element being audited. A materials Engineer may be very familiar with Damage Mechanisms and DMRs but does not have experience in auditing against the new PSM element requirements.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. L&I relies on the employer to include appropriate team members for the audit.

Requiring employers in non-unionized workplaces to consider and respond to recommendations regarding safety issues made by employee representatives may require employers to violate Section 8(a)(2) of the National Labor Relations Act. Employee safety proposals and recommendations are a mandatory subject of bargaining, and thus the type of bilateral engagement required by this provision would be inconsistent with and preempted by federal labor law.	Refineries must currently conduct compliance audits. Further, the language aligns is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
We believe the original WAC language is sufficient. The proposed change from the "two" to the "three" most recent compliance audit reports is not explained and is not justified. We believe retaining the previous three audit reports does not improve the PSM system.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. Compliance Audit reports need to be available for future reference; and to compare report recommendations over time. Expanding the retrospective "timeline" for maintaining audit reports can provide better information about improvements made and lingering deficiencies.
This requirement is already included in the Employee Collaboration section.	L&I has made the suggested change to remove the repetitive language regarding employee collaboration from multiple sections to streamline the rule and align with Cal/OSHA language
The proposed rule currently does not require that the audit report include documentation of all deficiencies and corrective actions taken. We urge L&I to require documenting all deficiencies identified, in addition to recommendations and corrective actions needed, to help inform the regulator that facility management is continually working to identify	The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce

hazardous and reduce risks. This information combined with enhanced indicator data would help the prevention of catastrophic incidents for both employers and the regulator.	inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. The adopted language in this draft requires the audit findings be documented in a written report; and the employer must respond in writing to questions and comments within 60 days. The intent is that "audit findings" include deficiencies.
WAC 296-67-375 Process safety culture assessment.	
We agree that conducting a periodic Process Safety Culture Assessment (PSCA) is an important part of improving process safety in a refinery. It is important to have the full support of employees in conducting process safety activity and to understand and address issues that arise when obstacles are in the way. Industry is evaluating culture and its impact on process safety, but no consensus has been developed on an effective method for conducting these types of assessments. Additionally, a selected methodology at one site may not be effective in another site. It is important to provide a high degree of flexibility for any PSCA requirement in a regulation. The words "values" and "beliefs" are inherently subjective terms that do not provide adequate notice of what compliance will require, which means that employers will be guessing as to their meaning and application. We support inclusion of a Process Safety Culture Assessment that supports learning and improvements.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
We believe that the Employee Collaboration requirement contained in the Employee Collaboration section of the Proposed Rule is sufficient at this time for requiring employee participation in PSCAs. Since there is not an accepted method for conducting a PSCA, it is too early to specify the team make up, except for requiring at least one person to have knowledge in how to conduct a PSCA. The term knowledge is being used, because PSCAs are in their infancy.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few

	areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
It seems too soon to specify the content of the PSCA and that doing so may detract from what the PSCA team determines the focus of the PSCA should be. We recommend modifying this section to require consideration of the items and to provide the PSCA team with more flexibility.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
Subsection (6). Additionally, requirements for addressing recommendations should be included in the Implementation Section of the proposed rule.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
(10) Participating contractors must provide PSCA reports and corrective action plans to their employees and employee representatives within 14 calendar days of receipt. See comments above on the interim assessment.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few

	areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
The requirement in subsection (11) is included in the Employee Collaboration section.	L&I has made the suggested change to remove the repetitive language regarding employee collaboration from multiple sections to streamline the rule and align with Cal/OSHA language.
WAC 296-67-379 Human factors	
Subsection (1). We are in agreement that human factors are an important part of process safety. We believe that human factors requirements should be embedded in other elements.	Thank you for your comment. This comment did not result in a change to the adopted rule language.
Replace language with: (2) The employer must include a written analysis of human factors, where relevant, in major changes, incident investigations, PHAs, MOOCs, and HCAs. The analysis must include a description of the selected methodologies and criteria for their use. RAGAGEP applies to Engineering Practices and is typically intended to be Mechanical Integrity Design Standards. RAGAGEP does not apply to PSM work processes.	Thank you for your comment. The adopted language was amended as follows: (2) The employer must include a written analysis of human factors, where relevant~~, in that, at a minimum, represents industry RAGAGEP relevant to,~~ major changes, incident investigations, PHAs, MOOCs, and HCAs. The analysis must include a description of the selected methodologies and criteria for their use.
This is already addressed in the Employee Participation Section and should be deleted here.	L&I has made the suggested change to remove the repetitive language regarding employee collaboration from multiple sections to streamline the rule and align with Cal/OSHA language.
WAC 296-67-379(4). The addition of the term 'effective method' could be interpreted as meeting a specific standard that would presumably be measured by specific criteria. Without clearly designating what constitutes an 'effective method' or how such an analysis might be measured as effective, however, this wording could result in an unintentionally burdensome amount of work to conduct a human factors analysis that, despite extensive effort conducted in good faith to meet the intent of the rule, may still not be able to be determined to be effective at improving safety or compliance with the rule. We propose to remove the term 'effective' unless a method for determining effectiveness can be clearly articulated.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. L&I will have resources to assist employers on how to interpret and understand how to make their safety program effective.

Remove subsection (7). We believe this requirement is already included in the training section (5) which requires training of affected employees in PSM elements.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
Remove (9) this is already covered in the employee participation section and should be deleted here.	L&I has made the suggested change to remove the repetitive language regarding employee collaboration from multiple sections to streamline the rule and align with Cal/OSHA language.
WAC 296-67-383 Corrective action program.	
The Tesoro heat exchanger and the resulting fire and explosion would not have taken place if the PSM standard had required management to reduce risks to as low as reasonably practicable (ALARP) and if employers were required to use the hierarchy of controls to identify and employ inherently safer solutions. While the existing PSM rules required actions to identify problems, they did not require employers to measurably reduce the identified risks. Washington's proposed Process Safety Management rule directly addresses this deadly problem: The language on corrective actions (WAC 296-67-383) that requires the employer implement all recommendations of the different PSM teams is critically important. The provisions that management cannot reject a safety recommendation because it is too expensive and that inherently safest solutions be given priority are especially important.	Thank you for your comment. This comment did not result in a change to the adopted rule language.
WAC 296-67-383, Corrective Action Program (3)(c). This rule will prevent refinery companies from allowing their quest for	Thank you for your comment.

greater production and profits to sideline actions needed to correct hazards. It disallows the failure to implement a corrective action recommended by listed safety teams to be undermined by an infeasibility claim based solely on costs.	This comment did not result in a change to the adopted rule language.
Corrective Action Program. Rename this section, "Implementation." This section covers recommendations, action plans and corrective actions and we suggest that Process Safety Performance Indicators be included here. We request some options and consideration of practicability with regard to addressing recommendation implementation. Timelines are subject to equipment availability, schedule feasibility, planning and overall safe condition of the plant / unit (for example, shutting a unit down to fix an LDAR leak versus a leak that has a potential to result in a major process safety incident introduces more hazards than the actual LDAR leaking condition). We believe the changes suggested in the section more clearly describes the process for developing and implementing corrective actions from findings and recommendations.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. The title of the section differs but the requirements in this section are the same. "Corrective Action Program" was chosen instead of "Implementation" to best describe the intention of this section of the rule. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
Remove subsection (2), teams produce reports in appropriate sections of the proposed rule. We believe these requirements are sufficient and therefore this section is redundant and should be removed.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
We recommend aligning with the Federal OSHA language (OSHA Instruction CPL 2-2.45A CH-1, *Compliance Guidelines and Enforcement Procedures*). When cost is a factor determining infeasibility, other factors are usually impacting feasibility and there are typically other	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I

options that if implemented will reduce risk to an acceptable level. Our suggested changes to this provision ensure that the focus of the proposed regulations remains on ensuring process safety and minimizing the consequences of a potential catastrophic release.	determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
Remove section (4). An alternate measure should provide a sufficient level of protection, first and foremost. This is more concisely addressed in our proposed revision to section 3(c).	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
Remove section (5). This requirement to document is redundant to our proposed revision to section 3.	Recommendations to change subsection (3) were not accepted. L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to implement similar rules. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
Modify (6) language: (3) If the employer makes changes to or rejects recommendations, the employer must seek feedback from the team who made the recommendation and inform the team of the final decision on the recommendations.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce

Communication of actions, written schedule, and resolution of actions to the team who generated the action is important and adds value. The employer should determine how best to do this when developing the PSM Program.	inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
The specificity of appending revalidations to the applicable report is not consistent with a performance-based regulation. We are unclear of the meaning of "applicable report". There are already requirements for updating/revalidating PHAs, SPAs, HCAs and DMRs in the proposed rule sections for those studies.	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. L&I considers this to be fundamental process safety concept.
Replace (9) with: (5) The employer must have a process to manage changes to corrective action completion dates. Employers need to have a process to manage changes to corrective action completion dates. Our proposed language is consistent with a performance-based regulation. The MOC process was not developed for the purpose of date changes.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
Remove sections (10) and (11). Specification of timelines here are arbitrary and notes that prompt implementation is already specified in the respective sections of the original WAC language as appropriate. Our proposed section (6) of this section addresses promptness of completion of corrective actions and consideration of interim measures.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington. These requirements are necessary because failing to implement a corrective action in a timely manner could adversely affect process safety. Some

	permanent corrective actions require time to complete. Interim measures are necessary to have in place until permanent corrections are completed to ensure the health and safety of employees. The requirements allow the employer to demonstrate in writing the rationale for failing to meet the specified time limits, while ensuring that the employer implements the permanent correction in accordance with the revised timeline.
Remove section (12). Options and consideration of practicability with regard to addressing corrective actions must be allowed. Timelines are subject to equipment availability, schedule feasibility, engineering, planning and prioritization with respect to other corrective actions. For example, implementation of corrective actions from an incident investigation completed one month prior to a scheduled turnaround may not be feasible due to long lead equipment component(s) or redesign. In this case, interim measure(s) may be implemented to manage risk until the corrective action can be fully completed.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
Remove section (13) and replace with: (6) Corrective actions must be completed promptly commensurate with the risk being managed and the complexity of the work to be done to implement the corrective action. Interim measure(s) must be considered for corrective actions that cannot be implemented promptly. We agrees that interim measure(s) must be considered for corrective actions that cannot be implemented promptly. WSPA proposes the simplified language in WSPA's proposed section (6). We notes that interim measure(s) may not be appropriate or required in all cases. For example, a corrective action requires a 2nd check valve for backflow prevention. There may be no interim measure applicable in this instance.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington
Remove section (14). Consistent with prior comments, we believes prompt implementation is specified in the relevant sections. We support that interim measure(s) must be considered and the corrective action completion date needs to	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was

be managed as seen in proposed revisions to sections (5) and (6).	supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
Remove section (15). An acceptable auditable trail is provided by the action plan required in section (1) and notes that many companies have a system to track corrective actions to completion. Appending such documentation to the original reports adds little value while creating significant administrative burden.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
This section (16) is already required in the Employee Collaboration section.	L&I has made the suggested change to remove the repetitive language regarding employee collaboration from multiple sections to streamline the rule and align with Cal/OSHA language.
We recognize the value and acknowledges that member companies already track process safety performance indicators (e.g., API RP 754) While we believe including such a requirement is not necessary in a performance-based regulation, we are willing to include section (7) per the suggested change.	L&I will not be making the suggested change to the adopted rule language. The adopted language is consistent with Cal/OSHA. L&I worked diligently to ensure the Washington proposed rule aligned with the Cal/OSHA language as much as possible where it was determined Cal/OSHA's approach was supported by the best available evidence and consistent with the changes L&I determined to be appropriate. As four of the petroleum refineries that operate in both California also operate in Washington, it was a priority to reduce inconsistencies where not improving worker safety. Additionally, employees and contractors frequently work at petroleum refineries in both states, meaning that having similar regulations will be safer. There are only a few areas where L&I language differs from that of Cal/OSHA, and is appropriately more prescriptive to fit with how petroleum refineries operate in Washington.
Cost Benefit Analysis (CBA) Comments	

The CBA has a deficiency in the estimation of processes and process units. A refinery's processing configuration varies uniquely by refinery. As L&I points out, there are approximately nine major types of processing units with a varying number of supporting units. L&I's CBA Table 2.4 summarizes the primary process types for each of the five Washington refineries. L&I uses seven processing units for all the facilities except Tacoma, which was reduced to five processing units. Based on TM&C's assessment, the average number of primary and supporting process units was 20 with an additional 15 process units which would be incorporated under the proposed language for a total of 350 process units. It is typical for large high complex refineries to have multiple processing units of the same process type. For example, a refinery may have multiple atmospheric distillation units and multiple hydrotreaters (i.e., naphtha hydrotreater, distillate hydrotreater, gasoil hydrotreater, etc.) versus one for each type which was assumed by L&I. Each of the process units would need to be included in the total count of primary process units. L&I states "it is worth noting that L&I does not expect that these are the only processes that exist in refineries. Rather, they are the major primary and supporting processes used to represent the 'typical' refinery processes when analyzing the cost burden for each rule element". Because L&I's CBA is based on processing types versus total number of actual processing units, L&I has significantly underestimated the total number of processing units in their calculation. Including newly covered process units, we calculated the weighted average total number used in L&I's CBA to equal 16.8 (i.e., 4 refineries with 18 process units and 1 refinery with 12 process units gives a weighted average of 16.8). This is 2.08 times lower than TM&C's weighted average based on the survey responses from the Washington refineries. Therefore, the total costs from L&I's CBA should be normalized based on an adjustment factor of 2.08.	The Turner, Mason & Company's (TM&C) assessment is based on the Western States Petroleum Association (WSPA) responses to the January 2020 L&I Survey of Economic Impact of Proposed Washington Process Safety Management Rule for Petroleum Refineries and not the Cost Benefit Analysis developed for this rule. As discussed in the Cost Benefit Analysis, L&I relied on a variety of sources including the cost inputs from the refining industry through a specially designed survey, the cost data from OSHA and EPA for similar requirements in their PSM rule analyses, and the comments and advice on the cost impacts of certain elements from L&I's internal technical experts and external subject matter experts, including technical experts from Cal/OSHA. In response to the survey, WSPA provided aggregated estimates from the Washington refineries it represents order to avoid potential conflicts involving confidential data or other proprietary information from the refiners, citing concerns with Washington's Public's Record Act under chapter 42.56 RCW. The survey included reference to RCW 42.56.270(19) that exempts information gathered under chapter 19.85 RCW or RCW 34.05.328 that can be identified to a particular business. Following the receipt of the survey results, additional details and clarifications were obtained in a follow-up meeting in April 2020 that included L&I personnel, WSPA, and industry representatives. Industry representatives indicated that the refineries may already be doing some of activities/analyses that are new requirements of the proposed rule; however, those activities are counted as representing new costs in the estimates they provided to L&I. L&I continues to use the current estimates of process units, including major processes under Table 2.1, but supporting and newly covered under Table 3.2, for the final CBA. These estimates were significantly higher than the average number of 4 processes per refinery reported from OSHA's PEL survey for its 1992 rule analysis (Kearney/Centaur, 1990). These estimates were made based on a close examination of the actual capacity data for primary process units in these 5 Washington refineries from the Energy Information Administration (EIA), an extensive literature review of supporting process units that a typical refinery may have, and a number of technical meetings and discussions with L&I's internal subject matter experts and the PSM experts from Cal/OSHA. We believe they are reasonable and accurate estimates based on the best information available to us.

The CBA has a deficiency in the compliance cost differentiation by refinery complexity.

L&I has incorporated the Nelson Complexity Index (NCI) when estimating hourly labor burden for the proposed rule across the varying complexity of each facility. They have used the varying NCI's to normalize the cost ratio. For example, in Table 3.3 of the L&I's CBA report, the Par Pacific Tacoma refinery has a NCI of 4.1 and the Marathon Anacortes Refinery a NCI of 8.5. Using the Anacortes Refinery as the baseline, the labor burden which the Tacoma Refinery incurs is 4.1 / 8.5 or 48% of the time as that of Anacortes. During our interviews with the refineries, we did not find this significant of a level of reduction. Therefore, we challenge the appropriateness to use the NCI for adjusting the labor burden. Per the U.S. Energy Information Administration (EIA), "A refinery's level of complexity is often based on how much secondary conversion capacity it has. The NCI is one measure of refinery complexity. This index was developed in the 1960s by W.L. Nelson in a series of articles for the Oil & Gas Journal. The index measures the complexity and cost of each major type of refinery equipment. In forming the index, the distillation column is given a value of 1 and the other units are assigned a value based on conversion and cost relative to the distillation column. The larger the Nelson Index of a refinery, the more complex it is"5 (EIA, 2012). For example, when comparing the NCI for Phillips 66 (P66) Ferndale Washington Refinery (Ferndale) to their Los Angeles Refinery (LA), the NCI ratio would be approximately 45% based as shown below.

Table 2.1.2 Nelson Complexity Index Comparison for Phillips 66 Washington and California refineries

	Ferndale	Los Angeles
Fluid Catalytic Cracker	X	X
Alkylation	X	X
Hydrotreating	X	
Hydrocracking		X
Reforming		X
Coking		X

L&I continues to use the Nelson Complexity Index (NCI) to normalize the cost estimates across various refineries for the final CBA. L&I acknowledges that the cost estimate for a refinery normalized by this method may not perfectly reflect the actual difference in labor burden for each specific task. However, we believe this is the best available complexity index for us to adjust the overall cost difference between refineries.

TM&C agrees that NCI is a well-known and well-established measure of refinery complexity and cost of each major type of refinery equipment. TM&C also used this index to compare the Washington Phillips 66 refinery in Ferndale with its Los Angeles one and agreed that the labor burden for many tasks including the Process Hazard Analysis (PHA) may be significantly lower for Ferndale refinery in comparison to the LA one.

Nelson Complexity Index	7.7	14.1
NCI Ratio	~45%	

Both refineries have fluid catalytic cracking (FCC) and alkylation processing units. Potentially the number of nodes which would be required to be analyzed in a Process Hazard Analysis (PHA) for the Ferndale FCC processing unit may be reduced in comparison to the LA refinery, but the analysis scenarios (i.e., high flow, low flow, high temperature, low temperature, etc.) required remain the same. If one were to use the NCI, the labor burden for P66's Ferndale refinery would be about 55% of the time experienced at the Los Angeles refinery. From our experience with various refineries, we have not experienced this level of variance from one refinery to another for similar processing unit types. Therefore, it is not appropriate for L&I to use the NCI to adjust the overall labor burden. We argue the variance in the total number of process units already accounts for a facility's complexity. The survey responses from the refineries did not show a significant variance in the estimated time required for each process unit PHA, which supports our point of view that the NCI should not be included when assessing the overall labor burden for the program provisions. This is inherently incorporated in the normalization calculations above.

Compliance cost reduction in subsequent years. L&I assumes the cost to comply with each provision of the program would reduce by 20% each time an update, review, or revalidation is conducted. We acknowledge the labor burden for certain program provisions will reduce for subsequent analysis, however, we do not believe the reduction will continue to be 20% with each cycle. Based on our discussions with industry PSM experts, this level of reduction is not reasonable and underestimates the ongoing costs of the program. Since this difference cannot easily be normalized, the total cost of L&I's CBA was not adjusted for this discrepancy.	L&I continues to use the assumption that the cost to comply with each provision of the program would reduce by 20% each time an update, review, or revalidation is conducted. This assumption was based on research, and discussed many times internally and externally and was finalized based on the feedback of our internal and external PSM experts as well as our own research in similar studies or government reports in this matter. As cited in the Cost Benefit Analysis, the 20% reduction is much lower than what EPA adopted in its 1996 RMP rule analysis which used a reduction rate of 50% or 90% for its major risk management program elements.
L&I used an average hourly rate of $95.34 as the unit labor cost for performing most of the tasks requiring a high level of	L&I adjusted the two hourly rates to 2023 USD based on the actual inflation data from BLS for the final CBA. TM&C misunderstood the total inflation used

engineering knowledge and management skills. L&I obtained salary data from the AIChE 2019 Salary Survey. According to their report, these rates were then adjusted for inflation to April 2022.

L&I states that the AIChE salary data aligns with OSHA's 2016 "Occupational Safety and Health Administration, Process Safety Management SER Background Document" Table B 15 Wage Rates6 (OSHA, 2016, OSHA-2013-0020-0107). Table 2.1.3 summarizes the wage rate data referenced.
TM&C reviewed the data to understand the inflation adjustment stated. Using the Level VI Engineer rate from the referenced AIChE Salary Survey to calculate an inflation rate for salary wages from 2013 and 2022, the total inflation across the 9 years was calculated at 9.3%, or 1.03% annually. This inflation rate does not keep pace with that reported by the U.S. Bureau of Labor Statistics (BLS) for NAICS 32411 U.S. Petroleum Refining. The BLS reported an increase in refinery labor wages for the State of Washington from 2017 to 2021 of 5.3% annually versus that in the AIChE survey.

Table 2.1.3 – Wage Rates AIChE Salary Survey

	2013	2022	Percent of Employment
Level VI Engineer	$139.26	$156.65	0.02
Level V Engineer	$115.82	$138.53	0.02
Level IV Engineer	$97.39	$106.07	0.32
Level III Engineer	$79.71	$86.76	0.64
Weighted Average Wage	$87.28	$95.37	
Total Inflation across 9 Years		9.3%	
Annual Inflation Rate		1.03%	

For the contract labor force, L&I calculated the average hourly rate on a weighted average of the top 20 occupations in 2021 for Washington refineries. The data source referenced was the 2020 Q2 Occupation-Industry Matric Data from the ESD, resulting in a rate of $53.19 per hour.

in the preliminary CBA and misstated that the annual inflation rate adopted by L&I was only 1.03% based on the total inflation of 9.3% across 9 years (between 2013 and 2022). As a matter of fact, this cumulative rate was for 3-year period (2019-2022) and the annual average inflation would be around 3.01%, which aligns well with the annual average wage inflation of 3.1% for petroleum refineries industry in Washington (NAICS 324110) between 2009 and 2022 (QCEW annual data, ESD).

TM&C's cost analysis of contract labor wages differed from L&I. Since the start of the COVID-19 pandemic, refiners have experienced an increase in contractor labor wages for electricians, pipefitters, millwrights, and carpenters anywhere from 13% to upwards of 35%. Even though refiners are generally insulated from increased costs due to multi-year labor contracts, refiners experienced higher levels of absentee and overtime during the pandemic. They also have been experiencing a shortage in available labor for open jobs, causing strain on the current workforce. Most U.S. refineries are unionized and have agreed to a wage increase of 3 to 4% annually for the next three years to help stabilize the workforce. These indices do not take this into account and should not be ignored when assessing the rising costs of labor across the industry. Through our prior analysis, we found the average contractor labor wage increase to be 6% annually. Based on this we adjusted the contract labor wage from the WRC report to a projected wage rate for 2022 of $74.44 per hour.

L&I makes no mention of the 2021 WRC report in their analysis to compare the average wages obtained from the AIChE 2019 Salary Survey. By omitting this publicly available data, L&I underestimates the overall cost impact from the labor burden. Due to these discrepancies, the total cost from L&I's CBA was normalized based on an Hourly Wage Rate Adjustment Factor of 1.34.

Table 2.1.4 – Wage Rate Comparison

	L&I CBA	TM&C Cost Analysis
Refinery Technical Labor	$95.34	$122.12
Contract Labor	$53.19	$74.44
Normalized Hourly Wage Rate Adjustment Factor		1.28-1.40
Averaged Adjustment Factor		1.34

<table>
<tr>
<td>L&I's CBA Section 3.2.5 Hourly Labor Cost. L&I calculated the annual labor burden for Year 2 across the refineries to be 14,301 hours, which equates to an average of 2,860 hours per refinery, requiring approximately 1.3 full-time employees (FTE). This then would continue to decline every 3 years by 20%. Based on the survey responses we obtained, each refiner anticipates 10,880 hours for the ongoing management of the additional PSM requirements, requiring approximately 5.2 FTE's. Across the ten-year time horizon for the cost analysis, this equates to a 3.7 cost differential multiplier for Program Management. We ask L&I to review this provision more closely and consider the direct feedback from the industry.

Table 2.2.1 – PSM Program Management Cost Differential

<table>
<tr><td></td><td>L&I CBA</td><td>TM&C Cost Analysis</td></tr>
<tr><td>Total Burden Across 10-years</td><td>98,860-197,720</td><td>545,000</td></tr>
<tr><td colspan="2">Cost Differential Multiplier</td><td>3.7</td></tr>
</table>
</td>
<td>L&I believes the estimated labor hours for the PSM program management costs are reasonable. These hours are estimated based on the major assumption about the complexity of each refinery, the time estimate for the initial development of the program, the reduced labor burden for the years when no major updates or revalidations are required, the reduced labor burden for each subsequent update, and the hourly rate of the personnel involved, all of which are explained in Section 3.2 and 3.4.1 of the CBA report. L&I disagrees with TM&C's estimate that each refinery would simply require a total of 10,880 hours, or 5.2 FTE's, for the ongoing management of the additional PSM requirements every year without considering the factors of refinery size and complexity, and the fact that the subsequent reviews and updates will require much less time than the initial development of the program once it has been established and maintained.</td>
</tr>
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<td>The proposed rule is prescriptive in how employee collaboration should be incorporated into a facility's PSM program. The time a facility will have to commit to meeting the requirements as stated in the proposed rule should not be underestimated. According to L&I's CBA, the ongoing labor burden of employee collaboration is assumed to be 10% of the overall annual labor burden estimated for each specific requirement. Based on discussions with non-Washington refiners who have incorporated some level of employee collaboration, they estimate 30% of the overall annual labor burden is necessary. This equates to a 3.0 cost differential multiplier for employee collaboration. Again, we would ask L&I to review this provision more closely and consider the direct feedback from the industry.</td>
<td>L&I believes the assumption of ongoing labor burden of employee collaboration as 10% of the total annual labor burden for all other requirements is reasonable. This assumption was made based on the input of L&I's internal subject matter experts and Cal/OSHA's PSM experts. L&I disagree with TM&C's estimate that the labor burden of employee collaboration would be as high as 30% of total labor burden of all other requirements proposed in this rule.</td>
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<tr>
<td>L&I estimated each process unit will be subject to 3 to 11 changes per year which will require 20 hours from a senior engineer to support the MOC provisions. Based on our survey</td>
<td>L&I's estimate of 3 to 11 changes for each process unit each year is based on both the OSHA's estimates for a large refinery (for the lower bound of this estimate) and WSPA's estimated MOCs per process back in 2020 (for the</td>
</tr>
</table>

assessment, this estimate is significantly low. On average, 25 changes per year per processing unit requires a MOC. This alone equates to a 3.6 cost differential multiplier for management of change.	upper bound of this estimate). L&I acknowledges the level of uncertainty involved in this estimate but still believes this range is appropriate based on the best information available to us.
L&I states “the proposed new and expanded process safety elements represent a significantly more protective standard than the current rule. As a result, the proposed rule is expected to prevent various major refinery incidents (MRI’s) from happening, which will benefit the refineries and their workers, as well as the public in nearby communities.” L&I makes this statement without supporting it with data from the U.S. refinery safety performance and statistical data sources. In our critique, we have found the absence of industry statistics for both the occupational safety performance and process safety metrics to be a gap in evaluating the benefits of the more stringent requirements. One cannot deny, the metrics for the refining industry have displayed a downward trend in the safety incident rates across the last decade, which has occurred in the absence of more stringent regulation.	L&I disagree with TM&C’s assertion that we made the statement that “the proposed rule is expected to prevent various major refinery incidents (MRI’s) from happening, which will benefit the refineries and their workers, as well as the public in nearby communities” without supporting it with data from the U.S. refinery safety performance and statistical data sources. L&I estimated different types of benefits related to the proposed rule based on the best data available to us. For example, in order to estimate the cost savings from nonfatal worker injuries, L&I examined the historical nonfatal claims reported by the 5 Washington refineries and identified those that were related to process safety as well as the average cost of such claim from its Workers Compensation database. For more details about this benefit and others, please check out Chapter 4 of the CBA report.
According to the *Preliminary Cost-Benefit Analysis for Safety Standards for Process Safety Management of Highly Hazardous Chemicals*, L&I estimates that the proposed rule would prevent at least one oil spill that would significantly affect the environment over 10 years. The Southern Resident killer whales are one example of the significant omissions in the preliminary cost-benefit analysis identified cost savings for preventing a major oil spill. Southern Residents are one of the most at-risk marine mammals in the world. Since Governor Inslee’s Executive Order established the Southern Resident Killer Whale Task Force, Washington State has made significant investments in the protection and recovery of Southern Residents. Washington State’s five refineries are located on the shores of the Southern Residents’ critical habitat. According to NOAA, a major oil spill could be catastrophic to the critically endangered Southern Resident killer whales, and oil spill prevention is a key strategy to avoid their extinction.	Thank you for your comment. This did not result in any change to the adopted rule language.

As shown in the Cost Benefit Analysis, there are substantial environmental benefits as well to strengthening our state's PSM regulations. The two March Point refineries are directly adjacent to the Fidalgo Bay Aquatic Reserve as well as the Padilla National Estuarine Research Reserve and other shorelines of statewide significance.	Thank you for your comment. This did not result in any change to the adopted rule language.
Thank you to L&I for completing a strong PSM rule that will protect the health and safety of those that work in oil refineries and safeguard the communities and natural resources of the surrounding area, and that is also enforceable so the oil industry is held accountable for any violations of this new rule. We also commend the Cost Benefit Analysis (CBA), which is thoroughly researched and documented. It also demonstrates how the benefits of the new rule outweigh the costs, providing a solid foundation for the rules. We are grateful for the dedication of the Department staff who have taken our input and recommendations seriously. Thank you for hosting a hearing in Anacortes. I know you received compelling testimony from the families whose lives were shattered by the explosions and that you understand the gravity and deeply personal nature of what you have been tasked to do.	Thank you for your comment. This did not result in any change to the adopted rule language.
We strongly support and appreciate the work that L&I has done to strengthen the PSM rule. The Cost Benefit Analysis and least burdensome analysis correctly demonstrates how the benefits of this new PSM outweigh the cost. The numerous tragedies and the ongoing litigation are a stark example of how the PSM standard is inadequate to protect workers, our communities, and hold employers accountable. We believe this revised rule will help prevent future fatalities, injuries, and the impact of releases to the environment.	Thank you for your comment. This did not result in any change to the adopted rule language.
L&I's proposed requirements go far beyond the existing safety requirements without selecting the least burdensome options,	L&I's Cost-Benefit Analysis addresses why the rule is needed to achieve the goals of WISHA which provides the underlying authority for the rule.

clearly articulating the enforceable boundaries of certain proposed amendments, accurately evaluating the benefits versus the costs of the individual and collective modifications, coordinating amendments with the federal standards applicable to refineries inside Washington, or identifying a tailored need for the expanded scope of more stringent regulations. L&I's proposed language impermissibly conflicts with Washington law as they would be extremely burdensome and create material resource strains on refiners in exchange for limited process safety gains. There is confusing and ambiguous language contained in the provisions that is likely to lead to an overly complicated program that is infeasible to implement both by refiners and regulators. The adoption of the rule, as proposed, would be arbitrary and capricious, and contrary to existing Washington law that places reasonable bounds on agency rulemaking.	Additionally the CBA and least burdensome analysis address where the adopted rule differs from federal standards what L&I's authority is and includes evidence as to why the adopted rule needs to be different. This includes that federal PSM regulations, like Washington's rules, have not been updated since 1992 while there have been changes in the industry and continued worker injuries and fatalities. In addition, the federal OSHA PSM regulation does not apply to Washington employers, the L&I rules do. L&I also has authority to have standards that are more stringent than federal standards unless a federal law preempts a state from taking that type of action.
L&I's proposed rule is in violation of the APA and 34.05.328 RCW. L&I has provided Washington state refineries with a consistent and stable safety standard for decades that is consistent with the federal PSM standards currently implemented by the EPA and OSHA. If adopted as proposed, L&I's PSM Rule would drastically exceed current EPA and OSHA PSM requirements and even reach beyond California's PSM refinery standard.	The Washington Industrial Safety and Health Act (WISHA) under chapter 49.17 RCW directs L&I to adopt safety and health standards for conditions of employment, and specifically requires L&I "provide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning gases, vapors, dust, or other airborne particles, toxic materials, or harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity….." As discussed in the Cost Benefit Analysis, L&I based this rulemaking on the best available evidence. The federal OSHA PSM regulation does not apply to Washington employers, L&I rules do. L&I also has authority to have standards that are more stringent than federal standards unless a federal law preempts a state from taking that type of action. However, L&I followed the APA's requirement to "coordinate [a] rule, to the maximum extent practicable, with other federal, state, and local laws applicable to the same activity or subject matter" where appropriate in light of the mandate under WISHA. L&I did so by coordinating and conferring with Cal/OSHA, reviewing federal OSHA standards and EPA standards related to

	highly hazardous chemicals and process safety standards. Additionally, L&I reviewed industry best practices in developing the adopted rule. While the purpose of OSHA's and DOSH's current PSM rules are preventing and minimizing the consequences of catastrophic release, the purpose and scope of this rule is to reduce the risk of process safety incidents by eliminating or minimizing process safety hazards to which employees may be exposed.
The Proposed Amendments are disproportionately burdensome on smaller facilities. The Proposed Amendments propose a number of requirements that impose the same burden, regardless of the size and complexity of the facility or the availability of local and corporate resources. So, these requirements impose a disproportionate impact on resources at small facilities. The Proposed Amendments discourages innovation and development of clean fuel facilities. The Proposed Amendments only apply to petroleum refineries. A new clean fuel facility within a petroleum refinery may be subject to all requirements of the Proposed Amendments. A similar clean fuel facility separate from a refinery will not be subject to the same requirements. Clean fuel facilities outside of Washington also will be spared the burden of the Proposed Amendments even if they are co-located with refineries. In either case, the Proposed Amendments discourage and disadvantage development of clean fuels within the state of WA, which is inconsistent with the state's climate policy.	Thank you for your comment. As mentioned above the intent of the PSM rule is to modernize the standard to account for improvements in technology and industry practices. L&I's Cost-Benefit Analysis addresses why the rule is needed to achieve the goals of WISHA which provides the underlying authority for the rule. Additionally the CBA and least burdensome analysis address where the adopted rule differs from federal standards what L&I's authority is and includes evidence as to why the adopted rule needs to be different. This includes that federal PSM regulations, like Washington's rules, have not been updated since 1992 while there have been changes in the industry and continued worker injuries and fatalities. In addition, the federal OSHA PSM regulation does not apply to Washington employers, the L&I rules do. L&I also has authority to have standards that are more stringent than federal standards unless a federal law preempts a state from taking that type of action.
General Comments	
The rule must be reviewed within three years after the rule goes into effect. The review must include applicable data including, but not limited to, PSM-related incidents/claims, inspections, other national and state regulations, peer-reviewed publications, and nationally recognized standards so the agency can review and update the PSM rule.	Thank you for your comment. It is already L&I's practice to review rules and underlying supportive evidence and information on a rolling basis to ensure regulations are accomplishing their intended goals. This did not result in any change to the adopted rule language.
Supportive Comments	

Several family members of workers who were injured or lost their lives in refinery incidents provided detailed testimony on the injuries their loved ones suffered and the impact the loss of life had on them and their families. Testimony included accounts of surgeries and the emotional toll of responding to an incident. The family members testified in support of the rule and asked L&I to promptly adopt the rule with no or minimal changes. L&I appreciates the information provided on the impact PSM rules can have for workers and their families. The employees who were injured or lost their lives should not ever be forgotten. Their memories should always be a reminder of the importance in providing a safe work place and continually striving to improve process safety to prevent any future injuries or fatalities' in the refining industry.	
I am in favor of the proposed improvements to the Washington State process safety management standard. Over the years, management has talked about valuing safety culture, but then turns that into minimum compliances and streamlining safety mechanisms driven by the check-the box-mentality, instead of listening to the people who perform the work and have to apply the standards to the staff administering safety programs. California revised their standard in 2017 and recognized the necessary improvements to the standard, addressing some of the loopholes that have been exploited for years due to the standard not being revised. We need enforcement from Labor and Industries to implement these protections.	Thank you for your comment. This did not result in any change to the adopted rule language.
We appreciate the work that L&I has put forward to the PSM rule. The rules will hopefully prevent the deadly fires, explosions, and toxic releases like those in 2010 and 1998, and making safety measures requirements, not just recommendations. It safeguards nearby communities and marine environment near shore and habitat and wildlife, empower workers to protect themselves, communities, and the environment by requiring employee collaboration in refinery safety decision-making and allowing them to stop work when their lives are at risk, which brings up one of the incidents in one of those disasters that happened.	Thank you for your comment. This did not result in any change to the adopted rule language.
Thank you for including union and community advocates, not just industry representatives in the early stakeholder meetings; this is important and will lead to a better rule. I believe that	Thank you for your comment. This did not result in any change to the adopted rule language.

evidence supports that workplace accidents are generally a result of hazards rather than workers. Root cause analysis being discussed is such a critical piece of this rule because when there are accidents and they are analyzed, this helps prevent future accidents by preventing the hazards. It's also very important that all workers on site are part of the team that's helping develop the culture of safety. Specifically, not just employees at the refineries, but the many onsite contractors from other companies as well. Safety has to be a team effort, and this makes sure that the team has a voice in improving workplace safety conditions.	
I appreciate the State's efforts to make changes to the PSM standard that are needed. The companies will need to collaborate with the employees and representatives to implement the rules and improve the safety of employees. I hope the State has strong enforcement to make sure that they're adhering to the PSM standard.	Thank you for your comment. This did not result in any change to the adopted rule language.
I support your agency's updated safety standards for management of highly hazardous chemicals WAC 296-67 Part B. These rules will help protect refinery workers and nearby residents from toxic releases and air pollutants, and will help protect lives in critical important marine, wetland, and forest ecosystems. One of the best ways to honor those people and their families, and to prevent similar tragedies is to adopt the updated rules as requirements so that workers have much better safety protections and a collaborative role in safety-related decision-making. When workers are protected so are nearby communities and surrounding environments.	Thank you for your comment. This did not result in any change to the adopted rule language.
Please retain and affirm a strong process safety management rule that was recently released. This rule can improve refinery worker and community safety. This includes requiring action to address safety issues and ensuring accountability if that is not done, empowering workers and putting more trust in the refinery workers themselves to know what is safe and appropriate, and ensuring that all refinery workers, including	Thank you for your comment. This did not result in any change to the adopted rule language.

contract workers, are covered by this rule. This rule should strengthen accountability and requirements to ensure that workers, communities, and the environment are kept safe.	
I attended nearly all of the agency's stakeholder meetings on these rules, helping to advocate that they be updated, strong, effective, and enforceable. Your proposed regulations will reduce the risk of explosions, fires, and releases of toxic chemicals by requiring refinery managers to take proactive measures to identify hazards and take corrective action to prevent these incidents. These rules are of particular importance in an era of changing refinery ownership, new chemicals, new technology and declining dependence on fossil fuels. Their benefits outweigh the costs to the regulated industry as solidly demonstrated by your preliminary CBA.	Thank you for your comment. This did not result in any change to the adopted rule language.
In my experience in 25 years, sometimes the most risky decision-making was associated with unplanned or unexpected events. What characterizes them is something's happened that either threatens production and management is faced with a choice to continue producing or to shut down and fix it now, or it can also come about something like a power outage occurs, and they've lost production unexpectedly and they're desperate to reestablish production. It could also happen at the end of a plant turnaround. Their senior executives expect to be producing at that time, but something comes up and they're delayed and they can't establish the production when they want to. These are all examples of times when management is most likely to make horrible decisions to put money first and people and communities and the environment last. Please consider looking at the language in the proposed draft to help ensure that when management faces a stark choice between money now or safety now that they always are held accountable to make the right decision. Contractor workers, in particular, are often afraid to use stop work authority because they're subject to just being sent down the road if they try. A language allows operators when they see	Thank you for your comment. This did not result in any change to the adopted rule language.

a risk and hazard that is simply inexcusable to shut the process down and take it to a safe state and settle their concerns about hazards without having to put people, communities or the environment at risk.	
Without strong, actionable, and mandatory measures in place to protect workers, communities, and ecosystems, these disasters are not anomalies. They are the constant, predictable result of a system that chooses weak regulation. And in making that choice, we put corporate profits over the health, safety, and lives of community members. A strong PSM rule will require employers to take action to keep workers and communities safe. It will not rely on normative statements about what employers should do. A strong rule will directly involve workers in developing and observing protocols, and ensure they're empowered to call out concerns without fear of retaliation. And a strong rule will prioritize community and worker health and serve as a step towards righting the environmental injustices that result from allowing incidents of catastrophic chemical release as part of the standard operation of oil refineries.	Thank you for your comment. This did not result in any change to the adopted rule language.
This rule puts us thoroughly planted in having the safety regulations that we need to make sure that we never repeat something like that again. What is safe inside the fence for our workers makes it safe outside the fence for our community, both for our community members to never have to deal with that kind of loss, but also to ensure that our environment is protected. Every measure that we can take to ensure that both the people and the planet are safe around it absolutely must be done, and it is unacceptable to not get this rule adopted.	Thank you for your comment. This did not result in any change to the adopted rule language.
I am writing in support of the proposed changes to the Process Safety Management (PSM) rule to protect communities, workers and the environment. L&I's proposed PSM rule is a strong rule that will significantly improve refinery workers and community safety.	Thank you for your comment. This did not result in any change to the adopted rule language.

Three components of the draft proposed rule are especially important and should be retained: • It requires action on the part of employers to protect workers and prevent tragedies from ignoring safety concerns. • The language on worker participation and collaboration with communities is especially important for its successful implementation and it contributes to community access to information and worker right to know. • It protects all workers. These protections extend to contract workers at the refinery, not just refinery employees.	
I support your agency's updates. The updated rules will make safety measures requirements, will empower workers to protect themselves by strengthening their stop work authority when operations are unsafe and protect our communities and safeguard the region's fragile marine environment. These updated rules will help prevent deadly fires, explosions and toxic releases like the incidents in 2010 and 1998 that killed 13 workers at Skagit County refineries. To save lives, safeguard communities and protect the environment, please keep these rules strong and effective.	Thank you for your comment. This did not result in any change to the adopted rule language.
I stand in support of all the refinery workers who put their lives on the line everyday working in hazardous environments. Safety must be the priority, not profit. All the losses we've suffered, and all the risks our communities have been exposed to, have all been preventable. If only the industry would make safety a priority all the time instead of just some of the time. This new law will help ensure that safety is always the highest priority, so that more tragedies can be prevented. Please resist efforts to undermine or weaken the draft.	Thank you for your comment. This did not result in any change to the adopted rule language.
Working in the refinery, I experienced that any rules governing our behavior or work that included the word "should" were ignored if it was difficult or had a cost associated with it. I found it frustrating when managers would refuse to do the right thing and state they were not compelled to follow through with rules based on their judgement of how "should" applied to their	Thank you for your comment. This did not result in any change to the adopted rule language.

decisions. This rule change will enable workers to call on managers to do the right thing. Weak language within rules amounted to no rule mandate. I fully support the proposed rule change.	
L&I's PSM for refinery rule will not only identify the problems, it will require refinery management to address the problems that have been found. We support the language in the rule and the accompanying Cost Benefit Analysis on worker collaboration with management to keep refineries safe. We agree that "active exchange taking place between employees and management" and the draft rule's emphasis on training of both refinery workers and turnaround contractors along with protections from retaliation will aid this central goal. The emphasis on inherently safest solutions is a very important addition to your state's PSM rule, using a team that includes the collaboration of workers to identify the inherently safest solutions to identified hazards is a model we hope will be replicated for all highly hazardous industries.	Thank you for your comment. This did not result in any change to the adopted rule language.
I strongly support L&I's adoption of rules for the prevention of process safety incidents at petroleum refineries and specifically the proposed rule issued on June 21, 2023. My support is based on the extensive investigation that the U.S. Chemical Safety and Hazard Investigation Board (CSB) conducted of the disaster at the Anacortes refinery in April 2010, other CSB refinery investigations, and CSB policy recommendations for safety change.	Thank you for your comment. This did not result in any change to the adopted rule language.
The rigorous implementations of safety standards for management of highly hazardous chemicals is of utmost importance, not only will the rules prevent fires, explosions and toxic releases like those that killed 13 refinery workers in Skagit County, it will help safeguard communities and the marine environment. Please keep the new rules strong and effective.	Thank you for your comment. This did not result in any change to the adopted rule language.
These rules accomplish multiple improvements, make rules mandatory, require records, empower workers, prevent deadly	Thank you for your comment.

accidents and help safeguard region's marine environment. All major net positives. Keep strong, effective and protective.	This did not result in any change to the adopted rule language.
We are writing to you in support of the proposed rules that will strengthen the Process Safety Rules for oil refineries in Washington. The waters of the Puget Sound that surround our Whidbey Island home are shared with the five oil refineries in Anacortes, Blaine, Ferndale and Tacoma. So this effort to prevent catastrophic incidents that pollute the air and water is important to our health and the health of every other living being and thing in the Puget Sound area. The requirements in the proposed PSM rule put limits on corporate power by mandating expenditures to keep workers and surrounding communities safe. We are grateful for the courage and the commitment to health and safety that have resulted in this strong new set of protections.	Thank you for your comment. This did not result in any change to the adopted rule language.
I am very concerned about refinery safety and writing to support the safety standards for management of highly hazardous chemicals. These rules will protect our valued refinery workers here in Skagit County by preventing deadly fires, explosions and toxic releases like the incidents in 2010-1998 that killed 13 Skagit workers, one of whom was my 6th grade student, K.D. Powell, a wonderful young woman.	Thank you for your comment. This did not result in any change to the adopted rule language.
Thank you for standing up for workers by pushing process safety management forward. Strong regulations not only protect workers but also the communities, animals, and waterways throughout the region. Please make sure that the proposed language provides strong protections for whistleblowers who are speaking out regarding safety at the refineries. Corporations will work and push as hard as they can to weaken what L&I has proposed, please stand strong against this.	Thank you for your comment. This did not result in any change to the adopted rule language.
I support L&I's updated safety standards for management of highly hazardous chemicals. These rules will prevent deadly incidents like what happened in our community at Skagit refineries in 2010 and 1998.	Thank you for your comment. This did not result in any change to the adopted rule language.

The rules will help safeguard nearby communities and the marine environment, nearshore habitat and wildlife. The rules will not allow the quest for profit to undermine worker safety. Please keep these rules strong and effective to save lives, safeguard communities and protect the environment.	
I support L&I's proposed safety standards for refineries. I especially am in favor of rules that encourage workers to help protect each other by allowing them to stop production when lives are at risk. This requires the collaboration of worker representatives in all phases of refinery safety decision making.	Thank you for your comment. This did not result in any change to the adopted rule language.
I implore you to use your leadership position to take action now, so that refinery profiteers must systematically listen to refinery workers. After all, these workers observe equipment malfunctions (like corroding pipes) first hand and see day to day operations up close. The proposed, updated regulations offer the opportunity to address problems before they explode and take more lives. I refer to the fourteen refinery workers unnecessarily killed since 2010, for the benefit of shortcuts and owners' profits.	Thank you for your comment. This did not result in any change to the adopted rule language.
I strongly support creation of a new Part B in Chapter 296-67 WAC. I was employed in 1998 when the tragic explosion occurred at the Equilon refinery in Anacortes. On many occasions I visited the four refineries in our jurisdiction. I know that there are many complex processes that need constant attention to minimize the risk to employees and nearby communities. The proposed Safety Standards for Management of Highly Hazardous Chemicals would be a positive step to enhance safety at petroleum refineries.	Thank you for your comment. This did not result in any change to the adopted rule language.
I write to express my strong support for L&I's proposed Process Safety Management rule for petroleum refineries. Process Safety Management represents best practice in protecting worker safety.	Thank you for your comment. This did not result in any change to the adopted rule language.

L&I's proposed rule draws appropriately on the Chemical Safety Board's findings following the 2010 Tesoro disaster in Anacortes and the 2017 California PSM rules that followed a fire and explosion at Chevron's Richmond, California refinery. The proposed rule contains a number of strong elements, including provisions for worker participation in process safety decision-making and the right to refuse highly risky work, requirements for managers to implement to the greatest extent feasible the inherently safest solutions to eliminate or reduce identified hazards and to document in writing how they are addressing all problems identified by PSM processes, and provisions for transparency and accountability with respect to corrective actions and PSM compliance. These elements are integral to program effectiveness—to preventing needless injuries and deaths to workers in the state's refineries. The proposed rule should be swiftly promulgated and diligently enforced.	
I urge you to adopt the proposed Washington PSM rule changes which are based on the Chemical Safety Board's findings and the 2017 California PSM rules. The refining industry is in transition, as the long term demand trend for transport fuels diminishes the refining industry is responding by changing its business model and its cost benefit analysis decision criteria. While refining margins currently are historically high due to cyclical global macro-economic factors, the majors will continue to divest refineries and/or reconfigure existing refineries to petrochemicals. Divested refineries will be acquired by non-traditional investors who may not have the operating capital of the majors. These aging refining assets will require updating deferred maintenance. Since the new owners' business model focus is short term monetizing their newly acquired asset they will reduce costs which will increase the risk profile for employees/operators and the surrounding community. Petrochemical refineries operate at much higher pressures, temperatures and incorporate higher levels of toxic and carcinogenic/dangerous products; both these result in higher levels of incidents and mortality for the workers and immediate surrounding communities.	Thank you for your comment. This did not result in any change to the adopted rule language.

I am writing to express my wishes that the strongest language possible be used to make the safest decisions mandatory, not a choice. The rules for Process Safety Management should be as strict as possible, ensuring the safety for all employees at the refineries here in the state of Washington.	Thank you for your comment. This did not result in any change to the adopted rule language.
I am writing to express my very strong support for safety standards for management of highly hazardous chemicals. I live directly across the bay from two of WA deadliest refineries and I remember the tragedies of 1998 and 2010. We must require oil companies to comply with safety measures all the time, not just when they decide to do so. I know how long it took to bring these new regulations to fruition. Let's see it through.	Thank you for your comment. This did not result in any change to the adopted rule language.
I am writing to encourage the adoption, without revisions, of the proposed rule changes regarding Process Safety Management in Washington State's petrochemical industry. I strongly urge L&I to reject the efforts by large corporate and industry entities to weaken the proposed new language in the Process Safety Management rules. I encourage L&I to adopt this new, stronger, and more effective policy.	Thank you for your comment. This did not result in any change to the adopted rule language.
I support DOSH's updated Safety Standards for Management of Highly Hazardous Chemicals, WAC 296-67, Part B. The updated rules would help prevent a recurrence of those incidents. All refinery workers, including contract workers would have protection under the updated safety standards. They would also keep local communities safe, including residents, wildlife and our fragile marine environment. And perhaps most importantly, safety measures would be requirements, not just recommendations.	Thank you for your comment. This did not result in any change to the adopted rule language.
I fully support the Washington Process Safety Management proposed rules and cost benefit analysis because I know first-hand what could have been done to prevent these two *entirely preventable* explosions as well as many others. The key to a decent safety system is worker participation: workers are the first to see any hazards and need the authority to work with management to address them.	Thank you for your comment. This did not result in any change to the adopted rule language.

The proposed rules reduce the risk of explosions and the release of toxic chemicals at Washington's oil refineries by solving problems before they're big enough to cause serious harm. This not only protects workers but also neighboring communities and the natural environment.	
I support the proposed new regulations for the refineries to improve their safety record and I also want to see improved environmental regulations and I hope these regulations will work toward that end.	Thank you for your comment. This did not result in any change to the adopted rule language.
I am writing in support of the proposed changes to the Process Safety Management (PSM) rule to protect communities, workers and the environment. The Department of Labor & Industries' proposed PSM rule is a strong rule that will significantly improve refinery workers and community safety.	Thank you for your comment. This did not result in any change to the adopted rule language.
WAC 296-67 is about process safety management for catastrophic incidents. However, the process needs to go further and address long-term exposure to these highly hazardous chemicals. I want to applaud the collaboration that has occurred to get to this point and hopefully inspire you to create an environment of "yes and" for worker safety. WAC 296-67 mainly focuses on Part B mainly now focuses on refineries, and that's great because 4/5 of the state's refineries are up here in Northwest Washington. It is truly sad that multiple catastrophic incidents have occurred with multiple preventable deaths of workers. However, the State is missing on workers that are dying from exposures to the carcinogenic chemicals. It is time for Washington State to recognize the risk to energy workers in these high-hazard facilities. Long-term chronic exposures to carcinogenic chemicals such as refinery products result in increased worker mortality as much or more than the highly visible catastrophic events. Process safety management doesn't have to be defined as only applying to catastrophic incidents. It can be used to	Thank you for your comment. This did not result in any change to the adopted rule language.

identify processes that reduce workers' chronic exposures and acknowledge the inherent risks of working in the petrochemical industry.	
A top concern cited by Anacortes refinery employees was the need for a regulation that would set a high bar for process safety programs to be followed by all refineries regardless of changes in management or company ownership. Employees expressed a challenge in responding to constant management change in the refineries. They saw this as reducing organizational competence and making it difficult for everyone to be on the same page. Comments included: “PSM is largely optional. Until it’s an obligation and fit for everybody it won’t be effective.” “The industry gets away with making their own standards and are not held to them.” “When there is a change in managers, we have to get used to a whole new management scheme.” One Los Angeles area refinery worker echoed this concern when he mentioned that he had worked in the same refinery for over 30 years and had been employed by five different companies – and his refinery was up for sale again. To illustrate the impact this has on safety, he gave the example of differing company policies regarding the use of clamps on leaking pipes. With one company, it was forbidden to use clamps over a certain time period; you needed to replace the pipe. Other companies had the philosophy “it’s a clamp – it stopped leaking, so we’re good.” He continued, “Different operating philosophies come and go with different companies, so the only thing that we’re left with at the end of the day, as folks working in the refinery, is what the standards are.”	Thank you for your comment. This did not result in any change to the adopted rule language.
A strong draft will, in turn, safeguard the communities and natural resources that surround refineries; and is enforceable so that hold the oil industry accountable for any violations of this updated rule. It has been a long and difficult journey to get to this point but we feel that we are finally on the threshold of taking a huge step forward in making refineries and their operations safer for our state. We are grateful for the dedication of the Department staff who have taken our input and recommendations seriously.	Thank you for your comment. This did not result in any change to the adopted rule language.

The common goal throughout our industry is that everyone goes home safely, and the community and the environment are properly protected. The refining industry is among the best performing of industries for which BLS provided 2021 data. According to the 2021 Bureau of Labor Statistics (BLS), the total recordable incident rate for the manufacturing sector was 3.3 job-related injuries and illnesses per 100 full-time employees. The 2021 total recordable incident rate for both company employees and onsite contractors working at petroleum refining facilities was 0.5 incidents per 100 full time employees. In other words, refinery workers are 6 times safer than workers at manufacturing sites.	Thank you for your comment. This did not result in any change to the adopted rule language.
The two Cherry Point refineries are adjacent to the Cherry Point Aquatic Reserve. The areas have been designated as a special status of the important and sensitive shoreline habitats that support a variety of wildlife, including endangered species. The Cherry Point Aquatic Reserve once hosted the most productive herring spawning population in the area and had dwindled since the 1970s to the brink of extinction with no Cherry Point herring spawned during the 2023 season. Shocking. Cherry Point -- or March Point also has, of course, the great blue heron rookery. Padilla Bay is the habitat to a massive eelgrass bed, the second largest in North America at more than 8,000 acres and serves as an important nursery to many important species such as juvenile crab, salmon, and herring, critical feeding habitat to many birds.	Thank you for your comment. This did not result in any change to the adopted rule language.
Please quickly adopt the proposed revisions to Washington State's process safety management rules for refineries. These rules are relevant to me because I live three miles from two of the five refineries in Washington State. If another incident were to occur, my family and I would be directly impacted by, say, a release of toxic chemicals or a horrendous fire.	Thank you for your comment. This did not result in any change to the adopted rule language.

I also care about the communities like the Swinomish tribal community that lives so close to the March Point site and have been negatively impacted by incidents in the past. Releases of hazardous chemicals not only kill and injure people but harm nearby communities and threaten the Salish Sea. The March Point oil refinery sits between Padilla and Fidalgo Bays. These are sensitive marine environments already stressed from a changing climate. The eelgrass beds of Fidalgo Bay and the aquatic environment of Padilla Bay are so unique and sensitive that they have special designations at the state and federal level. I care about safety -- the safety of workers at the refineries. Oil refinery workers need to be assured that they will come home each day at the end of their shift.	
We want to emphasize that the proposed revisions to this rule are critical to the protection of the Salish Sea ecosystem. This rule applies to the state's five refineries that are all located on the shores of the Salish Sea, one of the world's largest and most biologically rich inland seas. The proposed revisions to this rule will reduce the risk of catastrophic refinery accidents and oil spills, thereby improving the protection of highly valued public lands and wildlife habitats and the Salish Sea ecosystem in addition to its essential improvements to the public's and the refinery workers' health and safety. We urge the Department of Labor and Industries to act as swiftly as possible to adopt and implement this rule.	Thank you for your comment. This did not result in any change to the adopted rule language.
I support you in updating rules for refinery safety. Most Washington oil refiners around the Sound putting its beauty, biodiversity, and resources in peril, the ones my grandchildren will need. The absence of spawning herring at Cherry Point, the tragic demise of the southern resident orca, and the dwindling numbers of Chinook salmon show this to be true. Some basins like Hood Canal, the Georgia Basin, and Puget	Thank you for your comment. This did not result in any change to the adopted rule language.

Sound do not flush efficiently. Instead, for long periods of time, like a good part of a year, they contain nearly all that we humans do, particularly the disease-causing pollutants that refineries produce. Mishaps at refineries threaten our beaches, waters, and skies, along with the health, lives of refinery workers, community members, and marine life.	
I support the proposed update of the Safety Standards for Management of Highly Hazardous Chemicals, WAC 296-67, Part B. I'm glad to see the present proposal to prevent these kinds of incidents and to put a much higher priority on worker and public safety. I strongly support adoption and rapid implementation of these updated safety standards. Safety absolutely must come before refinery profits. I also support the proposed new standards because in reducing toxic pollutant emission incidents they will provide better protection for the ecologically significant areas adjacent to the refineries. These include Fidalgo Bay Aquatic Reserve, managed by the Department of Natural Resources to protect important forage fish spawning areas and a variety of marine habitats supporting an array of bird, mammal, and invertebrate species. Padilla Bay National Estuarine Research Reserve also borders March Point and preserves the second largest eel grass meadow on the U.S. West Coast.	Thank you for your comment. This did not result in any change to the adopted rule language.
The proposed revisions will reduce the risk of refinery accidents and oil spills, benefiting human health and safety while at the same time improving the protection of highly valued public lands, wildlife habitats and the Salish Sea ecosystem. Following multiple wildland firefighter fatalities the USFS prioritized improving worker safety, realizing a need to embrace, encourage and establish the mindset and protocols to reduce accidents and incidents. The actions we took ranged	Thank you for your comment. This did not result in any change to the adopted rule language.

from analyzing risks to empowering employees to speak up and stop work without retribution, we quickly adopted incident investigations and root cause analyses. Based on my work experience, I urge you to adopt your proposed rules. These rules are not unique or novel in the workplace and I am encouraged that these rules are being established. Now is the time to adopt and implement these rules to protect refinery workers, neighboring communities and our environment.	
This rulemaking bears enormous significance, given the ongoing urgency to protect refinery workers as well as the surrounding communities and ecosystems. We are fully in support of strengthening PSM rules as proposed by L&I. There are substantial environmental benefits to strengthening our state's PSM regulations. The environmental hazards of the four oil refineries operating here have long raised concerns for our communities living within their vicinity. There are tremendous inherent risks with refinery operations even in the best conditions. There have already been numerous incidents at our local refineries impacting surrounding communities, ecosystems, and refinery employees exposed to hazards – most of all those whose lives have tragically been lost. In less severe cases of emergency situations where in order to prevent a potential explosion, gasses are flared and pollutants released in excess of regular limits, the impacts can be nonetheless significant. We hope to see less occurrences of such situations in the future, following the implementation of the proposed PSM framework. Potentially impacted tribes should rightfully be consulted on this rulemaking. Washington State's five oil refineries all sit near or on federally recognized tribal lands and waters. These incidents were found to be avoidable and could be prevented with stronger PSM rules such as this rulemaking update. We believe these updated rules are imperative to prevent harm and safeguard human health and our environment. Furthermore we hope to see the final rule be further strengthened in accordance with points for improvement	Thank you for your comment. This did not result in any change to the adopted rule language.

highlighted in the joint-stakeholder letter submitted by the Blue Green Alliance, so as to clarify the definition of a qualified operator, ensure that timelines are adhered to by clearly attaching deadlines to Hazard Control Analyses, and reinstate the language in the Operating Procedures section ensuring a safe minimum number of employees are required for the execution of any procedure.	
I support your agency's updated Safety Standards for Management of Highly Hazardous Chemicals, WAC 296-67, Part B. These rules will help protect refinery workers and nearby residents from toxic releases of air pollutants and they will help protect life in critically important marine, wetland, and forest ecosystems. The stronger safety standards for workers proposed by L&I are essential, not only for the workers but also for surrounding communities and sensitive critical marine and land based ecosystems. Refinery workers are skilled and on the front lines of exposure due to small and larger toxic leaks and emissions that occur on a daily basis at March Point. They know the equipment and can detect unsafe situations. One of the best ways to honor those people and their families and to prevent similar tragedies is to adopt the updated rules as requirements so that workers have much better safety protections and a genuine collaborative role in safety related decision making.	Thank you for your comment. This did not result in any change to the adopted rule language.
We urge you to adopt them as soon as possible. Combined with changing processes and new products, the improved safety culture required by the new rule seems essential. Requirements (not recommendations) to investigate and understand the mechanisms of failures and to ensure they are not repeated are overdue. This is the successful strategy that has reduced airplane crashes to such rare events, and all industries with high catastrophic risks should adopt it. While we regret the additional bureaucratic burden on the companies, it does seem clear that documentation of such	Thank you for your comment. This did not result in any change to the adopted rule language.

things as process safety reviews, analyses of risk and failures, as well as trainings need to be required given the number of injury-producing incidents.	
We strongly support L&I's rulemaking proposal, which will benefit not only refinery workers, whose safety is of utmost importance, and the health of neighboring communities, but also protect the nearby unique and highly sensitive marine ecosystems and nearshore habitat by reducing the occurrence of explosions, fires and leaking of toxic substances. The adoption of the proposed PSM rule will greatly reduce significant refinery incidents from occurring, incidents which could result in the abandonment of the March Point Heronry.	Thank you for your comment. This did not result in any change to the adopted rule language.