

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<b>Process Safety Management of highly hazardous chemicals</b>	<b>Purpose.</b> This chapter contains requirements for preventing and minimizing the consequences of releases of toxic, reactive, flammable, or explosive chemicals or materials in the petroleum refining industry.	<p>Modify as follows:</p> <p><b>Purpose.</b> This chapter contains requirements for preventing or minimizing the catastrophic consequences of releases of toxic, reactive, flammable, or explosive chemicals These releases may result in toxic, fire, or explosion hazards.</p>	<p>Western States Petroleum Association (WSPA) believes that there needs to be clarity regarding process safety (i.e., concentrate on major incidents involving highly hazardous chemicals) and a focused approach to obtain the maximum benefit for risk reduction.</p> <p>The Discussion Draft has omitted the word “catastrophic”. This word is important in order to clearly identify the concern is with process safety releases, as opposed to environmental or occupational risk, that are already covered in other Federal and/or WAC regulations.</p> <p>WSPA is unclear as to the meaning of the change from “or” to “and” in the portion of the sentence that reads, “...for preventing <u>and</u> minimizing...” WSPA believes the term “prevention” is exclusive from the term “minimize”; only one can be done at a time. Therefore, it would be more appropriate to use the word “or” in this instance.</p> <p>WSPA believes that the term “materials in the petroleum refining industry” is vague and undefined and that the process safety hazards are adequately described by the terms “toxic, reactive, flammable or explosive chemicals.”</p>
	(2) Scope. This part applies to processes within petroleum refineries	<p>Modify as follows:</p> <p><b>Application.</b></p> <p>(a) This part applies to the following:</p> <p style="padding-left: 40px;">(i) A process which involves a chemical at or above the specified threshold quantities listed in WAC 296-67-285, Appendix A;</p> <p style="padding-left: 40px;">(ii) A process which involves a Category 1 flammable gas (as defined in WAC 296-901-</p>	<p>Petroleum refiners are not the only companies to handle highly hazardous chemicals and therefore, in the spirit of preventing all catastrophic incidents, the modifications should extend to all companies currently covered by the WAC Process Safety Management (PSM) rule.</p> <p>The specific appendix of chemicals and threshold quantities and the exceptions focuses the regulation on process safety hazards with potential for catastrophic releases.</p> <p>If Washington State Department of Labor &amp; Industries (L&amp;I) has concern regarding specific chemicals and/or quantities, WSPA is open to reviewing the list and quantities with L&amp;I to include additional chemicals that L&amp;I believes may have</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
		<p>14006) or a flammable liquid with a flashpoint below 100°F (37.8°C) on site in one location, in a quantity of 10,000 pounds (4535.9 kg) or more except for:</p> <p>(A) Hydrocarbon fuels used solely for workplace consumption as a fuel (e.g., propane used for comfort heating, gasoline for vehicle refueling), if such fuels are not a part of a process containing another highly hazardous chemical covered by this standard;</p> <p>(B) Flammable liquids with a flashpoint below 100°F (37.8°C) stored in atmospheric tanks or transferred which are kept below their normal boiling point without benefit of chilling or refrigeration.</p> <p>(b) This part does not apply to:</p> <p>(i) Retail facilities;</p> <p>(ii) Oil or gas well drilling or servicing operations; or</p> <p>(iii) Normally unoccupied remote facilities.</p>	<p>contributed in the past to catastrophic releases.</p> <p>Not all equipment in a refinery has potential for catastrophic releases. Complying with the expanded scope of this Discussion Draft to include scenarios or equipment without the potential for catastrophic releases dilutes the focus on process safety. For example, utility systems, by themselves, do not contain highly hazardous materials. Their impact to those processes containing highly hazardous materials is adequately evaluated during process hazard analyses (PHAs).</p> <p>Additionally, many utility systems, such as steam, are covered by other codes and standards, such as WAC 296-104 Board of Boiler Rules (RCW 70.79) and safe work practices (e.g., Lockout/Tagout (LOTO), confined space and emergency response). Hazards of utilities are not unique to the refining industry and, if improvements are needed, then they should be addressed in the specific codes and standards and/or safe work practices that apply to all companies which utilize them.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
		[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 14-07-086 (Order 13-08), § 296-67-001, filed 03/18/14, effective 05/01/14. Statutory Authority: RCW 49.17.010, .020, .040, .050, and .060. 07-03-163 (Order 06-30), § 296-67-001, filed 01/24/07, effective 04/01/07. Statutory Authority: Chapter 49.17 RCW. 92-17-022 (Order 92-06), § 296-67-001, filed 8/10/92, effective 9/10/92.]	

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<b>Acute toxicity.</b> See definition of <i>Acute Toxicity</i> in WAC 296-901-140, Appendix A.	Remove definition.	WSPA recommends 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. Section 112(r) (42 USC 7412(r)(3)-(5)) of the Clean Air Act Amendments (CAAA) mandated that the Environmental Protection Agency's (EPA's) accidental release prevention standard include an express list of highly hazardous chemicals to which the standard would apply, consider various factors in the development of that list, not list flammable substances when used as a fuel, and establish threshold quantities. Furthermore, EPA and Occupational Safety and Health Administration (OSHA) are required to coordinate their PSM and accidental release prevention requirements. (42 USC Section 7412(r)(7)(D)). These issues will need to be carefully considered when L&I submits its state plan supplement to OSHA for review in accordance with 29 CFR 1953.4(d).  OSHA adopted the list of toxic substances within Appendix A

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
			<p>based on its determination that those chemicals in their threshold amounts had the potential for a catastrophic release. OSHA selected the highly hazardous chemicals listed in Appendix A from a wide variety of sources, including relevant state law, other federal agencies, industry consensus standards, and even international sources.</p> <p>Based on its thorough review of those sources, OSHA stated in the preamble to the final PSM rule that it selected the chemicals for inclusion in Appendix A that it believed were “most significant in potentially becoming a catastrophic event.” WSPA does not believe that the definition of <i>Acute Toxicity</i> in WAC 296-901-140, Appendix A, is appropriate because it does not define toxicity in accordance with the purpose and stated intent of the CAAA, and thus the PSM standard. Moreover, many years and many man-hours went into the development of Appendix A and WSPA does not believe that there is any basis to deviate from it.</p>
	<p><b>Affected employee.</b> Workers who operate a process or job task in areas that may be impacted by maintenance or operation of a process area. Affected employees include, but are not limited to:</p> <ul style="list-style-type: none"> <li>(a) Maintenance personnel;</li> <li>(b) Operations personnel;</li> <li>(c) Contractors;</li> <li>(d) Staff members; and</li> <li>(e) Vendors providing process-related equipment,</li> </ul>	<p>Replace with the following definition:</p> <p><b>Affected employee.</b> Employees who operate or maintain a covered process, such as:</p> <ul style="list-style-type: none"> <li>(a) Maintenance personnel;</li> <li>(b) Operations personnel; and</li> <li>(c) Support personnel, such as technical or environmental, health and safety (EHS) professionals. Note: “Support personnel” does not include employees, providing incidental services which do not influence process safety, such as janitorial work, food and drink services, laundry, delivery, or other supply services.</li> </ul>	<p>WSPA believes that “affected employees” should focus on those involved in operating or maintaining a covered process.</p> <p>Additionally, contractors and vendors are already adequately included under the Contractor Section of the Discussion Draft.</p> <p>“Support personnel” does not include employees, contractors or vendors providing incidental services which do not influence process safety, such as janitorial work, food and drink services, laundry, delivery, or other supply services.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	or chemicals.		
	<b>Best Practice.</b> A method or technique that has been generally accepted as superior to alternative methodologies.	Remove definition.	<p>“Best Practice” is not appropriate for use in this regulation which sets the minimum requirements. Also, there is no definitive source for what is a “best practice” and as such it is ill defined, vague, and potentially arbitrary.</p> <p>WSPA suggests deleting the definition and its use throughout the document.</p>
	<b>Boiling Point.</b> See the definition of <i>Boiling Point</i> in WAC 296-901-14024, Appendix B.	<p>Revert to the original language in WAC 296-67-005:</p> <p><b>Boiling Point.</b> The boiling point of a liquid means the temperature at a pressure of 14.7 pounds per square inch absolute (p.s.i.a.) (760 mm.) at which a liquid boils. For the purposes of this part, where an accurate boiling point is unavailable for the material in question, or for mixtures which do not have a constant boiling point, the 10 percent point of a distillation performed in accordance with the Standard Method of Test for Distillation of Petroleum Products, ASTM D-86-62, may be used as the boiling point of the liquid.</p>	<p>WSPA was unable to locate a clear definition of boiling point in WAC 296-901-14024, Appendix B. WSPA recommends reverting back to the original Application Section 296-67-001 (2) and retaining the original definition of boiling point. Flammable liquids that are kept below their normal boiling point in atmospheric storage require the definition of boiling point.</p>
	<b>Change.</b> Any alteration in chemistry, technology, procedures, equipment, facilities or organization that could affect a covered process. A change does	Remove definition.	<p>“Change” is a common term and the specific application is already handled in the Management of Change Section of the Discussion Draft.</p> <p>WSPA recommends adding a separate definition for Organizational Change, which is appropriately addressed under</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	not include replacement-in-kind		Management of Change.
	<b>Collaboration.</b> The action of working with someone to produce or create something.	Remove definition.	WSPA recommends reverting to the use of “participation” instead of “collaboration”, consistent with federal PSM and Risk Management Program (RMP) rules. The change to “collaboration” in the Discussion Draft is subjective and adds considerable uncertainty in compliance.
	<b>Damage Mechanism.</b> The mechanical, chemical, physical, microbiological, or other process that results in equipment or material degradation.	Modify as noted in highlight below:  <b>Damage Mechanism.</b> The mechanical, chemical, physical, microbiological, or other <b>mechanism</b> that results in equipment or material degradation.	The use of the word “process” in this definition is not consistent with the definition of “process” provided in the Discussion Draft. To avoid confusion, WSPA recommends replacing it with “mechanism”.
	<b>Damage Mechanism Hazard Review (DMR).</b> An assessment of potential damage mechanisms that can affect processing equipment, including corrosion, stress cracking, and other material degradation.	Remove definition.	Definition is not required as it is not used in the body of the Discussion Draft. WSPA has suggested incorporating the term “corrosion information” in the Process Safety Information Section which is the output of a review of damage mechanisms for a covered process. Note: an example of “corrosion information” can be provided if required by L&I for the Non-Mandatory Appendices, similar to block flow diagrams, process and instrument diagrams, etc.
	<b>Employee Representative.</b> Union representative, where a union exists, or an employee-designated representative in the absence of a union that is on-site and qualified for the task. The term is to be	Replace with the following definition:  <b>Employee Representative.</b> Union representative, where a union exists or an employee in the absence of a union who is on-site and qualified for the task and represents employees at the site (e.g., is a member of the site safety and health committee). Union representatives are limited to	WSPA believes that the definition should not be dependent on the representation status of the work force by a collective bargaining agent. WSPA believes the employee representative must be qualified for the PSM-related activities required by the Discussion Draft at the site (e.g., incident investigations, PHAs).  WSPA requests the removal of the phrase stating that the term “employee representative” is to be “construed broadly.” This phrase adds an element of ambiguity that is confusing and unnecessary, and WSPA believes that the definition of

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>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 at the site.</p>	<p>representatives of the local union(s), if any, that have a collective bargaining agreement in place at the facility.</p>	<p>“employee representative” should simply be limited to the specific individuals identified in WSPA’s proposed definition. That will better assure that the employee representative is familiar with site-related process safety issues and better able to constructively participate in PSM activities under this standard.</p> <p>Additionally, the employee collaboration requirements contained in the discussion draft 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.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p><b>Feasible.</b> Capable of being accomplished in a successful manner within a reasonable period of time, taking into account health, safety, environmental, legal, social and technological factors.</p>	<p>Modify as noted in highlight below:</p> <p><b>Feasible.</b> Capable of being accomplished in a successful manner within a reasonable period of time, taking into account health, safety, environmental, legal, social, technological, <b>and economic</b> factors.</p>	<p>Consistent with legislation throughout the world, WSPA’s proposed definition of “feasible” includes economic impact, which allows for a cost-benefit analysis to be conducted to determine if a considered change provides adequate risk reduction for the cost (i.e., is feasible).</p> <p>Note that even the legislative process in Washington State requires a cost-benefit analysis of proposed rules. RCW 49.17.020(7) defines the term “safety and health standard” to mean a standard that requires “the adoption or use of one or more practices, means, methods, operations, or processes <i>reasonably necessary or appropriate</i> to provide safe or healthful employment and places of employment.”</p> <p>Courts in Washington have recognized that in order for a standard to be “reasonably necessary or appropriate” it must also be economically feasible. In assessing economic feasibility under Washington Industrial Safety and Health Act (WISHA), courts have held that L&amp;I must consider the degree to which a standard will affect the regulated industry’s “competitive stability.” Accordingly, L&amp;I has a statutory mandate to permit the consideration of economic factors in determining whether compliance with provisions of the proposed PSM rule is feasible.</p>
	<p><b>Flammable gas.</b> See the definition of <i>Flammable gas</i> in WAC 296-901-14024, Appendix B.</p>	<p>Remove definition.</p>	<p>WSPA recommends reverting back to the original Application Section 296-67-001 (2). Therefore, flammable gases are already defined within WAC 296-67-001(2)(a)(ii).</p>
	<p><b>Flammable liquid.</b> See the definition of <i>Flammable liquid</i> in WAC 296-901-14024, Appendix B.</p>	<p>Remove definition.</p>	<p>WSPA recommends reverting back to the original Application Section 296-67-001 (2). Therefore, flammable liquids are already defined within WAC 296-67-001(2)(a)(ii).</p>
	<p><b>Hierarchy of Hazard Controls Analysis (HCA).</b></p>	<p>Replace with the following definition:</p>	<p>WSPA recommends replacing the definition of Hierarchy of Hazard Controls Analysis with Hierarchy of Controls Principles</p>

## WSPA Comment Matrix on the Discussion Draft

	<p>Assessing hazard prevention and control measures, in priority order, to eliminate or minimize a hazard. Hazard prevention and 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.</p>	<p><b>Hierarchy of Controls Principles.</b> A preferred order of hazard prevention, control, or mitigation measures ranked from most reliable to least reliable: inherently safer, passive, active, procedural, PPE.</p>	<p>consistent with WSPA’s recommendations that hierarchy of controls is more appropriately incorporated into PHA and other sections rather than a standalone analysis.</p> <p>WSPA believes many factors influence the selection of a particular hazard prevention, control, or mitigation measure with Hierarchy of Controls Principles being one of those factors.</p> <p>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.</p>
	<p><b>Highly hazardous chemical (or material).</b> A substance possessing toxic, reactive, flammable, or explosive properties.</p>	<p>Revert to original WAC language: <b>Highly hazardous chemical</b> means a substance possessing toxic, reactive, flammable, or explosive properties and specified by WAC 296-67-001 (2)(a).</p>	<p>WSPA believes that the original WAC language appropriately and correctly tied the definition of highly hazardous chemical to the Applicability Section. Without that tie, the proposed definition includes all materials with any degree of toxicity, reactivity, flammability, or explosivity and in any quantity. Broadening the definition of “highly hazardous chemicals” as represented by the Discussion Draft dilutes the focus on process safety.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p><b>Hot work.</b> Work involving electric or gas welding, cutting, brazing, or any extreme heat, flame, or spark-producing procedures, operations, or the use of non-intrinsically-safe equipment.</p>	<p>Revert to original WAC language:</p> <p><b>Hot work.</b> means work involving electric or gas welding, cutting, brazing, or similar flame or spark-producing operations.</p>	<p>L&amp;I's proposed revision would constitute a substantial departure from the well understood meaning of this term that has been in use throughout industry for decades. The original WAC language adequately and sufficiently described the types of hot work operations capable of igniting a flammable mixture under real world conditions.</p> <p>Under RCW 34.05.328(h), L&amp;I must “[c]oordinate the [proposed] rule, to the maximum extent practicable, with other federal, state, and local laws applicable to the same activity or subject matter.” WSPA’s suggested changes to this definition mirror the definition of “hot work” contained in the federal PSM standard. WSPA does not believe that there is a basis for adopting a definition that would create competing and confusing compliance obligations between the proposed rule and the federal PSM standard. The proposed definition would also unnecessarily expand the circumstances in which a hot work permit would be required due to expanded definition of process and the inclusion of vague and overly broad terms such as “extreme heat” and “procedures.”</p> <p>The expanded definition of hot work is compounded by the fact that the proposed rule applies to <i>all</i> refinery processes regardless of whether a threshold quantity of a highly hazardous chemical is present. As such, this definition would significantly increase the paperwork burden on covered employers without any likely safety benefit</p> <p>Industry codes and standards relative to electrical classification permit the use of “non-intrinsically-safe equipment” and therefore, their use is not considered “hot work”.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p><b>Human Factors.</b> The design of machines, operations and work environments such that they closely match human capabilities, limitations and needs. Human factors include environmental, organizational and job factors, as well as human and individual characteristics, such as fatigue, that can affect job performance, process safety, and health and safety.</p>	<p>Replace with the following definition:</p> <p><b>Human Factors.</b> A discipline concerned with designing machines, operations, and work environments so that they are adapted to human capabilities, limitations, and needs. Includes technical work (engineering, procedure writing, worker training, worker selection, etc.) related to the human factor in operator-machine systems.</p>	<p>WSPA's proposed definition is consistent with definitions in existing literature (e.g., Center for Chemical Process Safety (CCPS)).</p> <p>WSPA believes that human factors are more appropriately incorporated into PHA and other sections rather than as a standalone Section in the Discussion Draft. See further comments in the Human Factors Section.</p>
	<p><b>Independent Protection Layers (IPL).</b> Safeguards that reduce the likelihood or consequences of a major incident through the application of devices, systems or actions. IPLs are independent of an initiating cause and independent of other IPLs. Independence ensures that an initiating cause does not affect the function of an IPL and that failure in any one layer does not affect the function of any other layer.</p>	<p>Replace with the following definition:</p> <p><b>Independent Protection Layers (IPL).</b> Device, system or action that is capable of preventing a scenario from proceeding to the undesired consequence without being adversely affected by the initiating event or the action of any other protection layer associated with the scenario.</p>	<p>WSPA's proposed definition is consistent with definitions in existing literature (e.g., CCPS).</p> <p>The first sentence of the Discussion Draft definition does not, in and of itself, define Independent Protection Layers (IPL) and therefore, may cause confusion.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p><b>Inherent Safety.</b> An approach to safety that focuses on eliminating or reducing the hazards associated with a set of conditions. A process is inherently safer if it eliminates or reduces the hazards associated with materials or operations used in the process, and this elimination or reduction is permanent and inseparable from the material or operation. A process with eliminated or reduced hazards is described as inherently safer compared to a process with only passive, active and procedural safeguards. The process of identifying and implementing inherent safety in a specific context is known as inherently safer design:</p> <p>(a) First Order Inherent Safety Measure. A measure that eliminates a hazard. Changes in the chemistry of a process that eliminate the hazards of a chemical are usually considered first order</p>	<p>Replace with the following definition:</p> <p><b>Inherently Safer.</b> 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.</p>	<p>WSPA’s proposed definition is consistent with definitions in existing literature (e.g., CCPS). WSPA further notes that much of the text in the Discussion Draft is explanatory and would be more appropriately included in the non-mandatory Appendix C of the WAC. Specifically, WSPA suggests the following language for insertion in Appendix C:</p> <p><i>Four possible approaches for achieving inherently safer design are:</i></p> <ul style="list-style-type: none"> <li>• <i>Minimize: Using smaller quantities of hazardous substances (also called Intensification)</i></li> <li>• <i>Substitute: Replacing a material with a less hazardous substance.</i></li> <li>• <i>Moderate: Using less hazardous conditions, a less hazardous form of a material, or facilities which minimize the impact of a release of hazardous material or energy (also called Attenuation and Limitation of Effects)</i></li> <li>• <i>Simplify: Designing facilities to eliminate unnecessary complexity and make operating errors less likely, and which are forgiving of errors which are made (also called Error Tolerance).</i></li> </ul>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>inherent safety measures; for example, by substituting a toxic chemical with an alternative chemical that can serve the same function but is less toxic.</p> <p>(b) Second Order Inherent Safety Measure. A measure that effectively reduces the severity of a hazard or the likelihood of a release. Changes in process variables to minimize, moderate and simplify a process are usually considered second order inherent safety measures; for example, by redesigning a high-pressure, high-temperature system to operate at ambient temperatures and pressures.</p>		

## **WSPA Comment Matrix on the Discussion Draft**

	<p><b>Initiating Cause.</b> An operational error, mechanical failure or other internal or external event that is the first event in an incident sequence, which also may mark the transition from a normal situation to an abnormal situation.</p>	<p>Replace with the following definition:</p> <p><b>Initiating Cause.</b> In the context of hazard evaluation procedures, the operational error, mechanical failure, or external event or agency that is the first event in an incident sequence and marks the transition from a normal situation to an abnormal situation.</p>	<p>WSPA's proposed definition is consistent with definitions in existing literature (e.g., CCPS).</p> <p>WSPA's suggested changes to the Discussion Draft do not use the term "Initiating Cause"; therefore, it could be removed from the definition list.</p>
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## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p><b>Integrity Operating Windows (IOWs).</b> Sets of limits used to determine the different variables that could affect the integrity and reliability of equipment within the process.</p>	Remove definition.	The term is not used in the Discussion Draft.
	<p><b>Isolate.</b> To cause equipment to be removed from service and completely protected against the inadvertent release or introduction of material or energy by such means as blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; implementing a double block and bleed system; or blocking or disconnecting all mechanical linkages.</p>	<p>Replace with the following definition:</p> <p><b>Isolate.</b> To stop flow into or out of a vessel, piping, or piece of equipment where a leak, spill, or discharge is occurring so that the leak may be addressed.</p>	The definition provided by L&I is more appropriate for LOTO purposes. However, in the context of the relevant section (the only reference is Operating Procedures Section (4)(f)(ii) in the Discussion Draft), WSPA believes 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.
	<p><b>Leading Indicators.</b> Predictive metrics of equipment, operating procedures, training, employee involvement, or other best practices used to identify potential and recurring deficiencies.</p>	<p>Replace with the following definition:</p> <p><b>Process Safety Performance Indicators.</b> Measures that may be used to assess process safety performance and process safety management system(s).</p>	<p>The Discussion Draft uses “leading” and “lagging” indicators only in the Process Safety Management Program Section (4) “The employer must develop, implement and maintain an effective program to track, document, and assess process safety performance indicators against best practices, as well as <u>leading and lagging factors</u>.” WSPA recommends referring to Process Safety Performance Indicators in WSPA’s proposed Implementation Section (6).</p> <p>In keeping with a performance-based standard, WSPA believes the list of specific topics in the Discussion Draft is inappropriate</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
			and should not be included.
	<p><b>Lagging Indicators.</b> Retrospective metrics of equipment, operating procedures, training, employee involvement, or other practices identified as requiring corrective action.</p>	<p>Replace with the following definition:</p> <p><b>Process Safety Performance Indicators.</b> Measures that may be used to assess process safety performance and process safety management system(s).</p>	<p>The Discussion Draft uses “leading” and “lagging” indicators only in the Process Safety Management Program Section (4) “The employer must develop, implement and maintain an effective program to track, document, and assess process safety performance indicators against best practices, as well as <u>leading and lagging factors</u>.” WSPA recommends referring to Process Safety Performance Indicators in WSPA’s proposed Implementation Section (6).</p> <p>In keeping with a performance-based standard, WSPA believes the list of specific topics in the Discussion Draft is inappropriate and should not be included.</p>
	<p><b>Major Change.</b> Any of the following:</p> <p>(a) Introduction of a new process, new process equipment, or new highly hazardous material;</p> <p>(b) Any operational change outside of established safe operating limits; or</p> <p>(c) Any alteration that introduces a new process safety hazard or worsens an existing process safety hazard.</p>	<p>Replace with the following definition:</p> <p><b>Major Change.</b></p> <ol style="list-style-type: none"> <li>1) An alteration to a covered process that introduces a new process safety hazard with the potential to cause a major incident or worsens an existing process safety hazard with the potential to cause a major incident by the introduction of new process equipment, new highly hazardous material, or an operational change outside of established safe upper and lower limits.</li> <li>2) The introduction of a new covered process.</li> </ol>	<p>WSPA believes that the essential part of the definition should be stated first. Therefore, paragraph (c) should become the first sentence of the definition.</p> <p>This definition must be tied to the potential for a major incident to focus resources on highest risk process safety issues. As such, WSPA’s suggested changes to this definition incorporates its suggested definition of “covered process” to mean only processes containing a threshold quantity of highly hazardous chemicals that could be involved in a potential catastrophic release.</p> <p>WSPA notes that this is a subject of continued conversations between California regulators and California refiners on examples of what major change is and is not. WSPA believes the Discussion Draft needs to provide clear requirements. WSPA’s proposed language clarifies major change as being applicable to changes with potential to result in major incidents.</p>
	<p><b>Major Incident.</b> An event within or affecting a process that causes a fire,</p>	<p>Replace with the following definition:</p> <p><b>Major Incident.</b> A major uncontrolled</p>	<p>WSPA believes that the definition of major incident should be tied to an uncontrolled release of a highly hazardous material as that is the precursor for fires, explosions and/or serious physical</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	explosion or release of a highly hazardous material and which has the potential to result in death or serious physical harm.	release of a highly hazardous material that results in death or serious physical harm.	harm.
	<b>Management of Organizational Change (MOOC).</b> An assessment that takes place prior to the reduction of staffing levels, the reduction of classification levels of employees during shift changes, or the increase of employee responsibilities or classification levels.	Replace with the following definition:  <b>Organizational Change.</b> 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.	WSPA believes that the concept of organizational change should be addressed in the Management of Change Section, so a definition of Management of Organizational Change (MOOC) is not required. Instead, a definition of “organizational change” is required in the context of management of change (MOC).  WSPA supports MOC coverage of process safety-related organizational changes. However, the current definition of MOOC is 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.
	<b>Outage.</b> Occasions during which a process or part of a process is taken off stream, or in which pressure, heat, or other factor(s) in the process are decreased or removed for purposes of maintenance or other necessary action. An outage does not include a turnaround, which typically involves concerted planning well in advance of process shutdown and	Remove definition.	WSPA believes this definition is not required as it is similar to the term “shutdown”. The definition of “turnaround” in the Discussion Draft addresses “planned” and “unplanned” shutdowns.  WSPA recognizes that the Discussion Draft proposes mechanical integrity issues be addressed at the first outage. In the Mechanical Integrity Section of the Discussion Draft, WSPA explains its concern that deficiencies can be simple or complex; some may not be able to be addressed by or at the “first outage”. There may be long lead time for delivery of parts or materials or detailed engineering. Mechanical Integrity (MI) provisions already require that the employer correct deficiencies before further use or in a timely manner when necessary means

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	maintenance.		are taken to ensure safe operation.
	<p><b>Process.</b> Any activity involving a highly hazardous chemical, including:</p> <ul style="list-style-type: none"> <li>(a) Any use;</li> <li>(b) Storage;</li> <li>(c) Manufacturing;</li> <li>(d) Handling;</li> <li>(e) Piping;</li> <li>(f) Release mitigation; or</li> <li>(g) The on-site movement of such chemicals, or combination of these activities.</li> </ul> <p>For purposes of this definition, any equipment that is interconnected, including separate vessels, which are located such that a highly hazardous chemical or utility could be involved in a potential release, must be considered a single process. This definition excludes ancillary administrative and support functions, including office buildings, labs,</p>	<p>Revert to the original WAC definition:</p> <p><b>Process</b> means any activity involving a highly hazardous chemical including any use, storage, manufacturing, handling, or on the on-site movement of such chemicals, or combination of these activities. For purposes of this definition, any group of vessels which are interconnected and separate vessels which are located such that a highly hazardous chemical could be involved in a potential release shall be considered a single process.</p>	<p>WSPA believes 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.</p> <p>WSPA also suggests that “covered process” be defined as a term.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	warehouses, maintenance shops, and change rooms.		
	<b>Process equipment.</b> Equipment that is part of a process.	Remove definition.	WSPA believes this term is well understood and has been used successfully in the original WAC rule; no definition is required.  Furthermore, the Discussion Draft definition does not expand or enhance the understanding of “process equipment”.
	<b>Process Safety Culture.</b> A combination of group values and behaviors that reflects whether there is a collective commitment by leaders and individuals to emphasize process safety over competing goals, in order to ensure protection of people and the environment.	Remove definition.	WSPA recommends the removal of the Process Safety Culture Assessment Section; therefore, a definition is not necessary. WSPA believes that this definition as written exceeds the scope of L&I’s authority. RCW 49.17.010 authorizes L&I to adopt safety and health standards to eliminate hazards in the workplace. Thus, requiring employers to take action to protect “people [i.e., public] and the environment” exceeds L&I’s statutory mandate. Furthermore, “values and beliefs” are inherently subjective terms that do not provide adequate notice of what compliance will require and do not constitute “practices, means, methods, operations, or processes” that L&I is authorized to regulate with a safety and health standard.  For further explanation, see the Process Safety Culture Assessment Section.
	<b>Process Safety Culture Assessment (PSCA).</b> A method to objectively define process safety values and beliefs.	Remove definition.	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. It is too soon to include this concept in a regulation. Furthermore, 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. As such, all terminology related to the process safety cultural assessment should be removed from the Discussion Draft.  WSPA recommends the removal of the Process Safety Culture

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
			Section; therefore, a definition is not necessary. For further explanation, see the Process Safety Culture Assessment Section.
	<b>Process Safety Hazard.</b> A hazard of a process that has the potential for causing a major incident, death, or serious physical harm.	Replace with the following definition:  <b>Process Safety Hazard.</b> A hazard of a process that has the potential to cause a major incident.	WSPA notes the definition of major incident already includes death and serious harm; therefore, repeating these two conditions is unnecessary.
	<b>Process Safety Management (PSM).</b> The application of management systems to ensure the safety of workers who interface with high-hazard processes.	Remove definition.	WSPA believes the definition for process safety management is not needed as the entirety of this rule defines process safety management.
	<b>Promptly.</b> With little or no delay.	Remove definition.	WSPA believes that dictionary definitions should not be provided in the rule. Definitions provided should have a unique meaning within the context of the rule and should facilitate compliance with the rule. As a result, this definition is vague as written and fails to provide employers with sufficient guidance as to what compliance will entail. Due process requires that employers be provided with adequate notice as to what activity will violate a health and safety standard. A standard is unconstitutionally vague if it is so indefinite that it leaves employers guessing as to its meaning and application. Courts interpreting the use of the word “promptly” in the federal PSM standard, for example, have defined the term to mean anywhere from 48 hours to multiple years.
	<b>Qualified Operator.</b> A person designated by the	Replace with the following definition:  <b>Qualified Operator.</b> A worker who has	WSPA believes that the information related to how an operator is qualified is more appropriately placed in the Training Section.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	employer who, by fulfilling the requirements of the employer's training program, has demonstrated the ability to safely perform all assigned duties.	fulfilled the requirements of the employer's operator training program.	Further clarification is provided in WSPA comments on the Training Section of the Discussion Draft.
	<b>Reactive Substance.</b> See the definition of <i>Reactive substance</i> in WAC 296-901-14024, Appendix B.	Remove definition.	WSPA recommends reverting back to the original Application Section 296-67-001 (2). Therefore, reactive substances are already listed in WAC 296-67-285.
	<b>Recognized and Generally Accepted Good Engineering Practices (RAGAGEP).</b> Engineering, operation or maintenance provisions established in codes, standards, technical reports or recommended practices, and published by recognized and generally accepted organizations such as, 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),	Replace with the following definition:  <b>Recognized and Generally Accepted Good Engineering Practices (RAGAGEP).</b> Widely adopted codes, consensus documents, non-consensus documents, and internal standards that apply to the design and maintenance, inspection and test practices, and inspection and test frequencies of equipment within a process.	The definition in the Discussion Draft should be consistent with an OSHA Memorandum issued to Regional Administrators by the Directorate of Enforcement Programs dated May 11, 2016. The Memorandum provides examples for the various types of Recognized and Generally Accepted Good Engineering Practices (RAGAGEP) documents and when each could apply. WSPA's suggested definition is consistent with the guidance issued by OSHA and incorporates internal standards created by on-site engineers with specific experience at the worksite in question. The Discussion Draft proposed definition does not recognize that all published codes, standards, technical reports and recommended practices originate from the individual practices of individual employers at their individual sites. It is industry-created engineering practices that inform and shape industry-accepted standards. Not recognizing internal employer standards as RAGAGEP would stifle innovation and advances in process safety. As such, while published codes and standards may function as 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.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	American Society of Testing and Materials (ASTM), National Fire Protection Association (NFPA), and Instrument Society of America (ISA). RAGAGEP does not include standards, guidelines or practices developed for internal use by the employer, unless they are documented as meeting or exceeding external provisions.		
	<b>Replacement in kind.</b> A replacement which satisfies the design specification.		WSPA agrees with the definition in the Discussion Draft. WSPA supports L&Is decision to retain the original definition of “replacement-in-kind” as the original language is well understood.
	<b>Safeguard.</b> A device, system or action designed to interrupt the chain of events or mitigate the consequences following an initiating cause:  (a) Passive Safeguards. Process or equipment design features that minimize a hazard by reducing either its frequency or consequence, without the active functioning of any device; for example, a diked wall	Replace with the following definition:  <b>Safeguard.</b> A device, system or action that either interrupts the chain of events following an initiating event or that mitigates the consequences of a major incident.	WSPA’s proposed definition 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.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>around a storage tank of flammable liquids.</p> <p>(b) Active Safeguards. Controls, alarms, safety instrumented systems and mitigation systems that are used to detect and respond to deviations from normal process operations; for example, a pump that is shut off by a high-level switch.</p> <p>(c) Procedural Safeguards. Policies, operating procedures, training, administrative checks, emergency response and other management approaches used to prevent incidents or to minimize the effects of an incident. Examples include hot work procedures and emergency response procedures.</p>		
	<p><b>Safeguard Protection Analysis (SPA).</b> A method for evaluating the risk of hazard scenarios and comparing it with risk tolerance criteria to decide if existing safeguards are adequate, and whether additional safeguards are</p>	Remove definition.	WSPA recommends that by incorporating the assessment of safeguards into process hazard analysis (PHA) the term “safeguard protection analysis (SPA)” is no longer used and no definition is required.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	needed.		
	<b>Safety Instrumented System.</b> Systems designed to achieve or maintain safe operation of a process in response to an unsafe process condition.	Remove definition.	WSPA believes that the additional details in the definition of “safeguards” are not needed and therefore, the definition of the term “safety instrumented system” is no longer necessary. Further, the term safety instrumented system is well understood in the industry.
	<b>Temporary Pipe or Equipment Repair.</b> A temporary repair of an active or potential leak from process piping or equipment. This definition includes active or potential leaks in utility piping or utility equipment that affect a process, and flange or valve packing leaks that could result in a major incident.	Remove definition.	The original WAC language, as well as the Discussion Draft, use the word “temporary” within the context of its common understanding. WSPA believes that dictionary definitions should not be provided in the rule. Definitions provided should have a unique meaning within the context of the rule and should facilitate compliance with the rule.
	<b>Toxic.</b> An unreasonable risk to health or the environment.	Remove definition.	WSPA recommends 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.
	<b>Turnaround.</b> A planned total or partial shutdown of a petroleum refinery process unit or plant to perform maintenance, overhaul or repair of a	Replace with the following definition:  <b>Turnaround.</b> A planned total or partial shutdown of a process to perform maintenance, overhaul or repair of process equipment, and to inspect, test and replace process materials and	WSPA would like to clarify that an entire refinery is rarely shutdown completely.  There are further comments in the Implementation Section that corrective actions may still not be able to be performed at a Turnaround if there is not sufficient planning time for the task.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>process and process equipment, and to inspect, test and replace process materials and equipment. Turnaround does not include outages, or unplanned shutdowns that occur due to emergencies or other unexpected maintenance matters in a process unit or plant.</p> <p>Turnaround also does not include routine maintenance, where routine maintenance consists of regular, periodic maintenance on one or more pieces of equipment at a refinery process unit or plant that may require shutdown of such equipment.</p>	<p>equipment. Turnaround does not include unplanned shutdowns that occur due to emergencies or other unexpected maintenance matters in a process.</p> <p>Turnaround also does not include routine maintenance, where routine maintenance consists of regular, periodic maintenance on one or more pieces of equipment at a process that may require shutdown of such equipment.</p>	
	<p><b>Utility.</b> A system that provides energy or other process-related services to enable the safe operation of a refinery process. This definition includes water, steam and asphyxiates, such as nitrogen and carbon dioxide, when used as part of a process.</p>	<p>Remove definition.</p>	<p>WSPA has proposed reverting to the original Application Section of the WAC rule which does not use the term “utility”. Therefore, defining a term not used in the body of the rule is not necessary.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<b>Covered Process</b>	Insert new definition:  <b>Covered process.</b> A process which falls within the Application as defined in WAC 296-67-001, Process Safety Management of Highly Hazardous Chemicals.	“Covered process” is used in the original WAC rule and this Discussion Draft. Providing a specific definition for “covered process” provides additional clarity for use within the rule. WSPA has used the term “covered process” in several areas of WSPA’s suggested changes and believes this will provide additional clarity.
	<b>Facility</b>	Revert to original WAC definition:  <b>“Facility”</b> means the buildings, containers, or equipment which contain a process.	Term is used within the Pre-Startup Safety Review (PSSR) Section and requires a definition. The definition of facility as cited in the original WAC rule has a unique meaning and is required for application of the rule.

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<b>Employee Collaboration</b>	1) In consultation with employees and employee representatives, the employer must develop, implement, and maintain an effective written plan to effectively provide for employee collaboration in all PSM elements. The plan must include the following:	Revert to original WAC language:  <b>Employee Participation:</b>  (1) Employers shall develop a written plan of action regarding the implementation of the employee participation required by this section.  (2) Employers shall consult with employees and their representatives on the conduct and development of process hazards analyses and on the development of the other elements of process safety management in this	WSPA supports the concepts of working together respectfully and productively; however, the specifics of “employee collaboration” as presented in the Discussion Draft are problematic (as outlined in the Sections below).  WSPA believes 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.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
		<p>standard.</p> <p>(3) Employers shall provide to employees and their representatives access to process hazard analyses and to all other information required to be developed under this standard.</p> <p>[Statutory Authority: Chapter 49.17 RCW. 92-17-022 (Order 92-06), § 296-67-009, filed 8/10/92, effective 9/10/92.]</p>	
	<p>a) Collaboration by affected operating and maintenance employees and employee representatives, throughout all phases, in performing process hazard analyses (PHAs), damage mechanism reviews (DMRs), hierarchy of hazard controls analyses (HCAs), management of change (MOCs), management of organizational change (MOOCs), process safety culture assessment (PSCAs), incident investigations, safeguard protection analyses (SPAs), and process safety startup reviews (PSSRs);</p>	<p>Remove section.</p>	<p>WSPA believes 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 address the topics listed in the Discussion Draft.</p>
	<p>(b) Collaboration by affected operating and maintenance employees and employee representatives, throughout</p>	<p>Remove section.</p>	<p>WSPA believes 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</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	all phases, in the development, training, implementation and maintenance of the PSM elements required by this section; and,		(2) of the original WAC rule sufficiently address the topics listed in the Discussion Draft.
	(c) Access by employees and employee representatives to all documents or information developed or collected by the employer pursuant to this section, including information that might be subject to protection as a trade secret.	Remove section.	WSPA believes 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 Trade Secrets Section 296-67-061 (3) of the original WAC rule and Employee Participation, Section (3) sufficiently address the topics listed in the Discussion Draft.
	(2) Authorized collective bargaining agents may select employee(s) to participate in overall PSM program development and implementation planning; and employee(s) to participate in PSM teams and other activities.	Remove section.	<p>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, this section of the Discussion Draft does not describe the necessary qualities or qualifications of the individuals participating on the teams.</p> <p>The selection of employees to participate in a PSM program is a personnel decision of an employer and this provision in the Discussion Draft exceeds the scope of L&amp;I's authority.</p>
	(3) Where employees are not represented by an authorized collective bargaining agent, the employer must establish effective procedures in consultation with employees	Remove section.	WSPA believes 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. WSPA's proposed definition of Employee Representative provides for selection at represented and non-represented facilities.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>for the selection of employee representatives.</p> <p>4) Within ninety calendar days of the effective date of this section, the employer must, in consultation with employee and employee representatives, develop, implement, and maintain the following:</p> <p>(a) Effective Stop Work procedures that ensure:</p> <p>(i) The authority of all employees, including employees of contractors, to refuse to perform a task where doing so could reasonably result in death or serious physical harm;</p> <p>(ii) The authority of all employees, including employees of contractors, to recommend to the operator in charge of a unit that an operation or process be partially or completely shut-down, based on a process safety hazard;</p> <p>iii) The authority of the qualified operator in charge of a unit to partially or completely shut-down an operation or process, based</p>	<p>Remove Sections (4) and (a) and add the topic of “stop work authority” to the safe work practices under “Operating Procedures”.</p>	<p>In keeping with a performance-based standard, WSPA believes the level of specificity proposed in the Discussion Draft 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.</p> <p>The details presented in the Discussion Draft could have merit in the non-mandatory Appendix C of the original WAC rule.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>on a process safety hazard; and</p> <p>(iv) Measures to ensure that employees who exercise stop work authority as described in this part are protected from intimidation, retaliation, or discrimination.</p>		
	<p>(b) Effective procedures to ensure the right of all employees, including employees of contractors, to anonymously report hazards. The employer must respond in writing within thirty calendar days to written hazard reports submitted by employees, employee representatives, contractors, employees of contractors and contractor employee representatives. The employer must prioritize and promptly respond to and correct hazards that present the potential for death or serious physical harm.</p>	<p>Replace section with the following:</p> <p>(4) The employer must, in consultation with employee and employee representatives, develop and implement procedures to ensure the right of all employees and employees of contractors to report directly or anonymously, process safety hazards. The employer must prioritize and address reported process safety hazards that have the potential to cause a major incident.</p>	<p>WSPA agrees that employer should provide for direct or anonymous reporting on process safety hazards. WSPA believes that this regulation should be focused on process safety hazards.</p> <p>In keeping with a performance-based standard, the level of specificity proposed in the Discussion Draft is not appropriate.</p>
	<p>(5) The employer must document the following:</p> <p>(a) Recommendations to partially or completely shut down an operation or</p>	<p>Remove section.</p>	<p>WSPA has suggested to incorporate stop work authority under the Safe Work Practices in the Operating Procedures Section.</p> <p>WSPA is not clear as to the purpose of this section. 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</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>process;</p> <p>(b) Partial or complete shutdown of an operation or process; and</p> <p>(c) A written log documenting instances when stop work authority was activated, and the action taken by the employer to address the circumstances under which that authority was exercised.</p>		<p>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 way against an employee who complains about safety and health.</p> <p>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.</p> <p>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.</p>

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Change	Basis for Change
<b>Process Safety Information</b>	The employer must develop, implement, and maintain a compilation of written process safety information (PSI) before conducting any process hazard analysis (PHA), hierarchy of hazard controls analysis (HCA), safeguard	<p>Revert to original WAC language:</p> <p>The employer shall complete a compilation of written process safety information before conducting any process hazard analysis required by the standard. The compilation of written process safety information is to enable the employer and the employees involved in</p>	WSPA believes the original WAC language spells out that having process safety information is essential for conducting process hazard analyses. Focusing on highly hazardous chemicals focuses attention on the potential for major incidents.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Change	Basis for Change
	<p>protection analysis (SPA), or damage mechanism review (DMR) required by the rule. The compilation of written process safety information shall be sufficient to enable the employer and the employees involved in operating the process the hazards posed by those processes involving highly hazardous chemicals.</p>	<p>operating the covered process to identify and understand the hazards posed by those covered processes involving highly hazardous chemicals. This process safety information shall include information pertaining to the hazards of the highly hazardous chemicals used or produced by the covered process, information pertaining the technology of the covered process, and information pertaining to the equipment in the covered process.</p>	
	<p>(1) Information pertaining to the hazards of the highly hazardous chemicals used in, present in, or produced by the process. This information must consist of at least the following:</p> <p>(a) Toxicity information; including acute and chronic health hazards;</p> <p>(b) Permissible exposure limits in accordance with WAC 296-841-20025;</p> <p>(c) Physical data; (d) Reactivity data;</p> <p>(e) Process-specific damage mechanisms;</p> <p>(f) Temperature, thermal and chemical stability data; and</p> <p>(g) Hazardous effects of</p>	<p>Revert to original WAC language with the exception of changes highlighted below:</p> <p>(1) Information pertaining to the hazards of the highly hazardous chemicals used in, present in, or produced by the <b>covered</b> process. This information must consist of at least the following:</p> <p>(a) Toxicity information; including acute health hazards;</p> <p>(b) Permissible exposure limits <b>in accordance with WAC 296-841-20025</b>;</p> <p>(c) Physical data;</p> <p>(d) Reactivity data;</p> <p>(e) Corrosivity data;</p> <p>(f) Thermal and chemical stability data; and</p> <p>(g) Hazardous effects of inadvertent mixing of different materials that could foreseeably occur.</p>	<p>A number of minor changes were made to this section 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.</p> <p>Specifically:</p> <ul style="list-style-type: none"> <li>• 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).</li> <li>• The change from “corrosivity” to “process specific damage mechanisms” does not seem to fit with highly hazardous chemical information or properties – it fits more naturally under section (3).</li> <li>• Temperature is included in “thermal stability” data</li> </ul>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Change	Basis for Change
	<p>inadvertent mixing of different materials that could foreseeably occur.</p> <p><i>Note: Safety Data Sheets meeting the requirements of WAC 296- 901- 14014 may be used to comply with this requirement to the extent they contain the information required by this section.</i></p>	<p><i>Note: Safety Data Sheets meeting the requirements of WAC 296- 901- 14014 may be used to comply with this requirement to the extent they contain the information required by this section.</i></p>	
	<p>(2) Information pertaining to the technology of the process.</p> <p>(a) Information concerning the technology of the process must include at least the following:</p> <p>(i) Piping and instrumentation diagram or simplified process/block flow diagram;</p> <p>(ii) Process chemistry;</p> <p>(iii) Maximum intended inventory;</p> <p>(iv) Safe upper and lower limits for such sections as temperatures, pressures, flows, or compositions; and</p> <p>(v) An evaluation of the consequences of deviations, including those affecting the safety and health of employees.</p>	<p>Replace section with the following:</p> <p>(2) Information pertaining to the technology of the covered process.</p> <p>(a) Information concerning the technology of the covered process must include at least the following:</p> <p style="padding-left: 40px;">(i) A block flow diagram or simplified process flow diagram (see WAC 296-67-289, Appendix B);</p> <p style="padding-left: 40px;">(ii) Process chemistry;</p> <p style="padding-left: 40px;">(iii) Maximum intended inventory;</p> <p style="padding-left: 40px;">(iv) Safe upper and lower limits for such sections as temperatures, pressures, flows, or compositions; and</p> <p style="padding-left: 40px;">(v) An evaluation of the consequences of deviations, including those affecting the safety and health of employees.</p> <p>(b) Where the original technical information no</p>	<p>A minor change was made to this section to change the “block flow diagram” to a piping and instrumentation diagram (P&amp;ID). For the technology of the process, a block flow diagram is likely sufficient. A P&amp;ID is required under section (3) and is not needed to be repeated here. The original WAC language adequately describes the minimum necessary list. Although these are three different sections, these are not considered by WSPA and industry in general to be three distinct and separate sets of documents and would not be considered in a process hazard analysis separately.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Change	Basis for Change
	(b) Where the original technical information no longer exists, such information must be developed in conjunction with the process hazard analysis in sufficient detail to support the analysis.	longer exists, such information must be developed in conjunction with the process hazard analysis in sufficient detail to support the analysis.	
	<p>(3) Information pertaining to the equipment in the process.</p> <p>(a) Information pertaining to the equipment in the process must include:</p> <p>(i) Materials of construction;</p> <p>(ii) Piping and instrument diagrams (P&amp;IDs);</p> <p>(iii) Electrical classification; supply, and distribution systems;</p> <p>(iv) Relief system design and design basis;</p> <p>(v) Ventilation system design;</p> <p>(vi) Design codes and standards employed;</p> <p>(vii) Safety systems (e.g., interlocks, detection, or suppression systems);</p> <p>(viii) The consequences of deviations, including chemical mixing and reactions that may</p>	<p>Replace section with the following:</p> <p>(3) Information pertaining to the equipment in the covered process.</p> <p>(a) Information pertaining to the equipment in the covered process must include:</p> <p style="padding-left: 40px;">(i) Materials of construction;</p> <p style="padding-left: 40px;">(ii) Piping and instrument diagrams (P&amp;IDs);</p> <p style="padding-left: 40px;">(iii) Electrical classification;</p> <p style="padding-left: 40px;">(iv) Relief system design and design basis;</p> <p style="padding-left: 40px;">(v) Ventilation system design;</p> <p style="padding-left: 40px;">(vi) Design codes and standards employed;</p> <p style="padding-left: 40px;">(vii) Material and energy balances for processes built after May 26, 1992;</p> <p style="padding-left: 40px;">(viii) Safety systems (e.g., interlocks, detection, or suppression systems);</p> <p style="padding-left: 40px;">(ix) Corrosion information</p> <p>(b) The employer must document that</p>	<p>Changes that have been made to this section do not appear to be consistent with the purpose of being a process safety focused rule or to add significant value. The original WAC language adequately describes an appropriate list of equipment-related Process Safety Information (PSI) with one addition.</p> <p>Specifically,</p> <ul style="list-style-type: none"> <li>• WSPA is unclear how the “electrical supply and distribution systems” would be utilized by the PHA team and would like to understand L&amp;I’s proposed language and intent. Loss of power is a current consideration in all PHAs.</li> <li>• The exclusion of “material and heat balances” is hopefully an oversight as these are considered very important process safety information to have for process hazard evaluations and should be added back per the original language.</li> <li>• WSPA proposes the substitution of “corrosion information” in place of “Results of prior damage mechanism reviews (DMRs)” as the relevant information to be listed under Process Safety Information.</li> <li>• WSPA believes section (3)(a)(viii) is a duplication of section (2)(a)(v) and is more appropriate in</li> </ul>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Change	Basis for Change
	<p>affect the safety and health of employees; and</p> <p>(ix) Results of prior damage mechanism reviews (DMRs).</p> <p>(b) The employer must document that equipment complies with recognized and generally accepted good engineering practices or with more protective internal practices that ensure safe operation.</p> <p>(c) For existing equipment designed and constructed in accordance with codes, standards or practices that are no longer in general use, the employer must determine and document that the equipment is designed, maintained, inspected, tested and operating in a safe manner.</p>	<p>equipment complies with recognized and generally accepted good engineering practices.</p> <p>(c) For existing equipment designed and constructed in accordance with codes, standards or practices that are no longer in general use, the employer must determine and document that the equipment is designed, maintained, inspected, tested and operating in a safe manner.</p>	<p>section (2).</p> <p>WSPA suggests L&amp;I 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 (3)(b).</p>
	<p>(4) The employer must provide for employee collaboration. The process safety information (PSI) must be made available to all employees, and relevant process safety information must be made available to affected employees of contractors. Information pertaining to the hazards of the process must be effectively communicated to all</p>	<p>Remove section.</p>	<p>The topic of sharing information is already included in Employee Collaboration Section of the Discussion Draft and was included in the original WAC language in the Employee Participation Section. To avoid confusion, this requirement should not be duplicated here. Information on the hazards of the process being communicated is covered under Training and Contractor Sections.</p> <p>WSPA believes that section (4) should be eliminated.</p>

## **WSPA Comment Matrix on the Discussion Draft**

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<b>Section</b>	<b>WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)</b>	<b>Suggested Change</b>	<b>Basis for Change</b>
	affected employees.		

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<p><b>Process Hazard Analysis</b></p>	<p>(1) The employer must perform and document an initial process hazard analysis (PHA) on processes covered by this standard. The process hazard analysis must be appropriate to the complexity of the process and must identify, evaluate, and control the hazards associated with the process. Employers must determine and document the priority order for conducting process hazard analyses based on a rationale which includes, but is not limited to, such considerations as extent of the process hazards, number of potentially affected employees, age of the process, and operating history of the process.</p>	<p>Revert to original WAC language:</p> <p>(1) The employer shall perform an initial process hazard analysis (hazard evaluation) on processes covered by this standard. The process hazard analysis shall be appropriate to the complexity of the covered process and shall identify, evaluate, and control the hazards involved in the covered process. Employers shall determine and document the priority order for conducting process hazard analyses based on a rationale which includes such considerations as extent of the process hazards, number of potentially affected employees, age of the covered process, and operating history of the covered process. The process hazard analysis shall be conducted as soon as possible, but not later than the following schedule:</p> <ul style="list-style-type: none"> <li>(a) No less than 25 percent of the initial process hazards analyses shall be completed by May 26, 1994;</li> <li>(b) No less than 50 percent of the initial process hazards analyses shall be completed by May 26, 1995;</li> <li>(c) No less than 75 percent of the initial process hazards analyses shall be completed by May 26, 1996;</li> <li>(d) All initial process hazards analyses shall be completed by May 26, 1997;</li> <li>(e) Process hazards analyses</li> </ul>	<p>WSPA believes there are no issues with the original language. It is well understood by industry.</p> <p>WSPA is unclear as to why the implementation schedule was deleted. WSPA believes that the implementation schedule for PHAs should remain as it still applies to the covered processes.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
		completed after May 26, 1987, which meet the requirements of this section are acceptable as initial process hazards analyses. These process hazard analyses shall be updated and revalidated, based on their completion date, in accordance with this section.	
	<p>(2) The employer must use process hazard analysis methodologies that are appropriate to the size, complexity, toxicity, and catastrophic potential of the process. These methodologies may include:</p> <p>(a) What-If;                      (b) Checklist;                      (c) What-If/Checklist;                      (d) Hazard and Operability Study (HAZOP);                      (e) Failure Mode and Effects Analysis (FMEA);                      (f) Fault Tree Analysis; or                      (g) An appropriate equivalent methodology.</p>	<p>Revert to original WAC language:</p> <p>(2) The employer shall use one or more of the following methodologies that are appropriate to determine and evaluate the hazards of the covered process being analyzed.</p> <p>(a) What-If;                      (b) Checklist;                      (c) What-If/Checklist;                      (d) Hazard and Operability Study (HAZOP);                      (e) Failure Mode and Effects Analysis (FMEA);                      (f) Fault Tree Analysis; or                      (g) An appropriate equivalent methodology.</p>	<p>There are no issues with the original language. It is well understood by industry. WSPA has no known history of the methodology selection being an issue in inspections or a cause of a major incident.</p>
	<p>(3) The process hazard analysis must address:</p> <p>(a) The hazards of the process;</p>	<p>Revert to original WAC language with the exception of changes highlighted below:</p> <p>(3) The process hazard analysis shall</p>	<p>The original language should be retained and modified as needed to include some of the additional requirements:</p> <ul style="list-style-type: none"> <li>• Section (b) was reworded for clarity based on</li> </ul>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>(b) The findings of incident investigations relevant to the process;</p> <p>(c) Engineering and administrative controls associated with the process;</p> <p>(d) Potential consequences of failure of engineering and administrative controls;</p> <p>(e) Facility siting, including the placement of processes, process equipment, buildings, and employee occupancies and work stations, in order to effectively protect employees from process safety hazards;</p> <p>(f) Human factors;</p> <p>(g) Previous publicly documented major incidents in the petroleum refinery and petrochemical industry sectors that are relevant to the process;</p> <p>(h) Damage mechanism review (DMR) reports that are applicable to process equipment;</p> <p>(i) Hierarchy of hazard controls analysis (HCA) reports that are applicable to the process units;</p> <p>(j) The potential effects of external events, including seismic events, if applicable;</p>	<p>address:</p> <p>(a) The hazards of the covered process;</p> <p>(b) Previous incidents, relevant to the covered process, which had a likely potential for a major incident;</p> <p>(c) Engineering and administrative controls applicable to the process safety hazards and their interrelationships such as appropriate application of detection methodologies to provide early warning of releases. (Acceptable detection methods might include process monitoring and control instrumentation with alarms, and detection hardware such as hydrocarbon sensors);</p> <p>(d) Potential consequences of failure of engineering and administrative controls;</p> <p>(e) Facility siting;</p> <p>(f) Human factors;</p> <p>(g) A qualitative evaluation of a range of the possible process safety effects of failure of controls on employees in the workplace.</p>	<p>WSPA's previous comment that major incident has a potential for catastrophic release.</p> <ul style="list-style-type: none"> <li>• WSPA suggests in section (c) the addition of the words "process safety" in order to more clearly focus on hazards that could result in a major incident.</li> <li>• WSPA agrees that the addition of "potential consequences" in section (d) is appropriate.</li> <li>• Section (f) – additional comments to follow in conjunction with comments on the Section on Human Factors.</li> <li>• Sections (g), (i), (j) and (l) of the Discussion Draft 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: <ul style="list-style-type: none"> <li>○ Section (g) is already included in section (b), above;</li> <li>○ Relative to section (h), WSPA believes an output from damage mechanism reviews (DMRs) is corrosion information, which WSPA has recommended as PSI. PSI is already required to be included in PHAs and therefore this section is not needed to be duplicated;</li> <li>○ Section (i) hierarchy of controls principles should be used for major changes and when developing PHA recommendations.</li> <li>○ Section (j) 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.).</li> </ul> </li> </ul>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>(k) An evaluation of the types, severity and likelihood of possible incidents that could result from a failure of the process or of process equipment; and</p> <p>(l) A review of applicable management of change (MOC) documents completed since the most recent PHA.</p>		<ul style="list-style-type: none"> <li>○ Section (l) changes associated with MOCs are already included in PSI updates; PSI is the input into the PHA and therefore this section is not needed to be duplicated.</li> <li>● The Discussion Draft section (k) was moved to section (g) to be consistent with the original WAC language and sequence. WSPA suggests the addition of the words “process safety” in order to more clearly focus on hazards that could result in a major incident.</li> </ul>
	<p>(4) The process hazard 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 process being evaluated. Also, one member of the team must be knowledgeable in the specific process hazard analysis methodology being used. The employer must provide for employee collaboration. As appropriate, the team must consult with individuals with expertise in damage mechanisms, process chemistry, safeguard protection analyses (SPA), control systems, or other such relevant skills.</p>	<p>Revert to original WAC language:</p> <p>(4) The process hazard analysis shall be performed by a team with expertise in engineering and process operations, and the team shall 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 process hazard analysis methodology being used.</p>	<p>WSPA believes the original WAC language was well understood.</p> <p>The Employee Participation Section adequately covers participation in PHAs.</p> <p>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.</p>
	<p>(5) For each scenario in the PHA that identifies the potential for a</p>	<p>Replace section with the following:</p>	<p>WSPA agrees that the adequacy or effectiveness of safeguards should be included in the Process</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>major incident, the employer must perform:</p> <p>(a) An effective written safeguard protection analysis (SPA) to determine the effectiveness of existing individual safeguards;</p> <p>(b) The combined effectiveness of all existing safeguards for each failure scenario in the PHA;</p> <p>(c) The individual and combined effectiveness of safeguards recommended in the PHA;</p> <p>(d) The individual and combined effectiveness of additional or alternative safeguards that may be needed; and</p> <p>(e) The employer must complete all SPAs within six months of completing the PHA.</p>	<p>(5) For each scenario in the PHA that identifies the potential for a major incident, the employer must complete a documented assessment of the individual and combined effectiveness of safeguards within six months of completing the PHA.</p>	<p>Hazard Analysis (PHA) Section of the Discussion Draft document. Keeping with the principle that 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. Therefore, creating a new term “safeguard protection analysis (SPA)” is not necessary.</p> <p>WSPA believes including the objectives of assessing safeguards is sufficient; including specific requirements is not necessary or warranted. Chapter 7 of the CCPS Guidelines for Hazard Evaluation Procedures discusses a determination of the adequacy of safeguards.</p>
	<p>(6) The employer must conduct an HCA in a timely manner, for all recommendations made by a PHA team for each scenario that identifies the potential for a major incident. The employer must attach the HCA report to the PHA report.</p>	<p>Include in WSPA’s proposed section (6) with modification, as discussed below in section (12) in the Discussion Draft.</p>	<p>The requirement in this section should be included in section (12) in the Discussion Draft. It should be located with other information related to the PHA report and handling of PHA recommendations, not in the middle of the language related to SPA. In addition, the language was clarified to reflect that hierarchy of controls is best incorporated in the resolution of PHA recommendations. See additional comments in section (12) and HCA Section.</p>
	<p>(7) All independent protection layers for each failure scenario must be independent of each</p>	<p>Remove section.</p>	<p>This section is already addressed in the various methodologies used to evaluate safeguards. The requirement in section (7) of the Discussion Draft is</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	other and independent of initiating causes.		included in section (5) of the WSPA suggested change.
	(8) The SPA must utilize a method, such as layer of protection analysis (LOPA), or an equally effective method to identify the most protective safeguards. The risk reduction obtainable by each safeguard must be based on site-specific failure rate data, or in the absence of such data, industry failure rate data for each device, system or human factor.	Remove section.	Consistent with WSPA's discussion in Section (5), specific methodologies should not be prescribed. WSPA is concerned that the language used in these sections contradicts the principles of Layer of Protection Analysis (LOPA), Fault Tree, Fault Mode Effects Analysis (FMEA), etc.
	(9) The SPA must include at least one individual with expertise in the specific SPA methodology being used. The SPA may be performed as part of the PHA or as a stand-alone analysis. The employer must provide for employee collaboration in the performance of all SPAs.	Replace section with the following:  (6) The assessment of safeguards must include at least one individual with experience in the methodology being used. The assessment may be performed as part of the PHA or as a stand-alone study.	WSPA believes that the requirement for employee participation in the conduct and development of process hazards analyses and the development of the other elements of PSM is adequately covered in the Employee Participation Section of the original WAC rule.
	(10) The SPA must document the likelihood and severity of all potential initiating events, including equipment failures, human factors, loss of flow control, loss of pressure control, loss of temperature control, loss of level control, excess reaction, and other conditions that may lead to a loss of containment. The	Remove section.	Keeping with the principles of performance-based standards, the specific methodology selected will specify documentation requirements and should not be specified in the rule.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	SPA must document the risk reduction achieved by each safeguard for all potential initiating events.		
	(11) The employer must complete all SPAs within six months of the revalidation or change of any PHA based on its next evaluation date.	Remove section.	This is redundant to section (5)(e) and is included in the suggested changes for section (5).
	(12) The team must document and promptly address its findings and recommendations in a PHA report, which must be available in the respective work area for review by any person working in that area.	<p>Replace section with the following:</p> <p>(7) The PHA team shall document their evaluation in a report that includes:</p> <ul style="list-style-type: none"> <li>(a) The methodologies, analyses and factors considered by the PHA team; and</li> <li>(b) The PHA team's recommendations, including recommendations to address deficiencies identified by the assessment of safeguards.</li> </ul> <p>(8) The employer shall establish a system to:</p> <ul style="list-style-type: none"> <li>(a) promptly address the team's findings and recommendations;</li> <li>(b) consider hierarchy of controls principles on recommendations for scenarios that have the potential for a major incident;</li> <li>(c) assure that the recommendations are resolved in a timely manner and that the resolution is documented;</li> <li>(d) document what actions are to be</li> </ul>	<p>Sections (6), (12), and (13) in the Discussion Draft should be reordered for clarity. WSPA believes the report requirements should be included prior to PHA recommendation resolution requirements.</p> <p>It is the employer's responsibility and not the PHA team's responsibility to address PHA recommendations per the PHA report as seen in the suggested change in section (8).</p> <p>Original WAC language sufficiently addresses how to manage PHA recommendations and needs to be reinstated as seen in the suggested change in section (8).</p> <p>Hierarchy of control principles are best applied to the resolution of PHA recommendations as seen in the suggested change in section (8)(b). See additional comments in HCA Section.</p> <p>The PHA report availability requirements are redundant to section (14) and should be deleted here.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
		<p>taken;</p> <p>(e) complete actions as soon as possible;</p> <p>(f) develop a written schedule of when these actions are to be completed.</p>	
	<p>(13) The PHA report must include:</p> <p>(a) The methodologies, analyses and factors considered by the PHA team;</p> <p>(b) The findings of the PHA team; and</p> <p>(c) The PHA team's recommendations, including additional safeguards to address any deficiencies identified by the SPA.</p>	<p>Include (13) with modification as discussed in section (12) in the Discussion Draft.</p>	<p>See Basis for Change for section (12) in the Discussion Draft which is WSPA's proposed section (7).</p>
	<p>(14) The employer must make the report available to operating, maintenance and other persons whose work assignments are in the petroleum refinery and who may be affected by the findings and recommendations.</p>	<p>Revert to original WAC language with the modification for communicating the report rather than just the recommendation:</p> <p>(9) The employer shall make the PHA report and planned actions available to operating, maintenance, and other employees whose work assignments are in the covered process and who may be affected by the recommendations or actions.</p>	<p>The original WAC language adequately identified affected personnel for PHAs. Additionally, the WAC language addressed the communication of the PHA actions to the affected personnel and WSPA agrees with also making the PHA report available, not just the actions.</p>
	<p>(15) At least every five years after the completion of the initial process hazard analysis, after a major incident or when changes to the process warrant a more timely revision, the process hazard</p>	<p>Revert to original WAC language:</p> <p>(10) At least every five years after the completion of the initial process hazard analysis, the process hazard analysis shall be updated and revalidated by a team</p>	<p>WSPA believes that the wording should be returned to the original WAC language. Following a major incident, the investigation may determine that a PHA deficiency was a cause and the investigation team may recommend that the PHA be updated. Otherwise, incident investigations do</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	analysis must be updated and revalidated by a team meeting the requirements of this section, to ensure that the process hazard analysis is consistent with the current process.	meeting the requirements of this section, to assure that the process hazard analysis is consistent with the current covered process.	not trigger PHAs. The requirements for PHAs for major changes would be identified and managed in the MOC process.
	(16) Employers must retain the initial, updated or revalidation of process hazard analyses and SPAs for each process covered by this part, as well as the documented resolution of recommendations described in this section for the life of the process.	<p>Revert to original WAC language and modify to include the PHA report and assessment of safeguards:</p> <p>(11) Employers shall retain PHA reports and updates or revalidations for each covered process, <b>assessment of safeguards required by this part</b>, as well as the documented resolution of recommendations described in this section for the life of the covered process.</p>	WSPA believes that the wording should be returned to the original WAC language with the addition of requiring the PHA report and assessment of safeguards be retained. WSPA agrees that the PHA report and assessment of safeguards should also be retained.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<b>Operating Procedures</b>	<p>(1) The employer must develop, implement, and maintain effective written operating procedures that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information and must address at least the following:</p> <p>(a) Steps for each operating phase:</p> <p>(i) Start up;</p> <p>(ii) Normal operations;</p> <p>(iii) Temporary operations;</p> <p>(iv) Emergency shutdown, including the conditions under which emergency shutdown is required; provisions granting the authority of the qualified operator to partially or completely shut down the operation or process; and the assignment of responsibilities to qualified operators in order to ensure that emergency shutdown is executed in a safe and timely manner;</p> <p>(v) Normal shutdown; and</p> <p>(vi) Start-up following a turnaround, or planned or unplanned shutdown, or after an emergency shutdown.</p> <p>(b) Operating limits:</p> <p>(i) Consequences of deviation; and</p> <p>(ii) Steps required to correct or avoid</p>	<p>Revert to original WAC language with the exception of changes highlighted below:</p> <p>(1) The employer shall develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information and shall address at least the following:</p> <p>(a) Steps for each operating phase:</p> <p>(i) Initial startup;</p> <p>(ii) Normal operations;</p> <p>(iii) Temporary operations;</p> <p>(iv) Emergency shutdown, including the conditions under which emergency shutdown is required and the assignment of responsibilities to qualified operators in order to ensure that emergency shutdown is executed in a safe and timely manner;</p> <p>(v) Emergency operations;</p> <p>(vi) Normal shutdown; and</p> <p>(vii) Startup following a turnaround, or after an emergency shutdown.</p>	<p>WSPA agrees with retaining the term “covered process” and is concerned about the impact of broadening from “covered process” to “process” as utilized in other sections of the Discussion Draft. Consistent with our principles, WSPA believes that PSM rules and regulations should focus on “process safety hazards”. Focused attention of resources on scenarios involving highly hazardous chemicals with the potential for a catastrophic release will result in the greatest reduction of risk.</p> <p>WSPA believes that the “authority of the qualified operator to partially or completely shut down the operation or process” is covered by Stop Work Authority, which WSPA has suggested including in Safe Work Practices under this section. Consistent with WSPA principles, requirements should be specified only once.</p> <p>WSPA recommends retaining “initial startup and emergency operations” from the original WAC rule in section (1)(a)(vi) as WSPA believes these are important operations that required specific procedures. WSPA is unclear as to the intention of including “planned and unplanned shutdowns”. Planned shutdown is included in section (vi) and Unplanned Shutdown is covered by section (iv) or section (vi).</p> <p>In section (1)(c)(iv), WSPA believes “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. WSPA believes the original WAC language was sufficient and clear.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>deviation.</p> <p>(c ) Safety and health considerations:</p> <p>(i) Properties of, and hazards presented by, the chemicals used in the process;</p> <p>(ii) Precautions necessary to prevent exposure, including engineering controls, administrative controls, active and passive controls and personal protective equipment;</p> <p>(iii) Protective measures to be taken if physical contact or airborne exposure occurs;</p> <p>(iv) Verification of the composition and properties of raw materials and control of hazardous chemical inventory levels;</p> <p>(v) Any special or specific hazards;</p> <p>(vi) The minimum number of personnel required to safely execute the procedure; and</p> <p>(vii) The safety procedures for opening process equipment.</p> <p>(d) Safety systems and their functions.</p>	<p>(b) Operating limits;</p> <p>(i) Consequences of deviation; and</p> <p>(ii) Steps required to correct or avoid deviation;</p> <p>(c) Safety and health considerations, such as:</p> <p>(i) Properties of, and hazards presented by the chemicals used in the <b>covered</b> process;</p> <p>(ii) Precautions necessary to prevent exposure, including engineering controls, administrative controls, and personal protective equipment;</p> <p>(iii) Control measures to be taken if physical contact or airborne exposure occurs;</p> <p>(iv) Quality control for raw materials and control of hazardous chemical inventory levels;</p> <p>(v) Any special or unique hazards; and</p> <p>(vi) The minimum number of personnel required to safely execute the procedure if different from normal staffing level;</p> <p>(d) Safety systems and their functions; and</p> <p><b>(e) Human factors considerations.</b></p>	<p>Staffing levels are not necessary to be included in every operating procedure except when it deviates from normal staffing levels as seen in the suggested language for section (1)(c)(vi).</p> <p>Section (1)(c)(vii) is redundant with section (4)(c) and should be deleted.</p> <p>In section (1)(e), WSPA proposes including an additional requirement to consider human factors in operating procedures instead of it being a standalone Section of the Discussion Draft.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	(2) Operating procedures must be readily accessible to employees who work in or maintain a process, and to any other person who works in or near the process area.	<p>Revert to original WAC language with the exception of changes highlighted below:</p> <p>(2) Operating procedures shall be readily accessible to employees who work in or maintain a <b>covered</b> process.</p>	<p>WSPA believes that the original WAC language was sufficient.</p> <p>The language in section (2) implies that “Operating Procedures” should be available to “any other person who works in or near the process area”. WSPA is concerned that this language could require ancillary personnel such as custodial staff, who work in or near a process area, to have access to operating procedures. Communicating the hazards of the process are covered in other sections. WSPA suggests reverting to the original WAC language.</p>
	(3) The operating procedures must be reviewed and updated as often as necessary to ensure that they reflect safe, current operating practices, including changes that result from changes in process chemicals, technology, and equipment, and changes to facilities and personnel.	<p>Revert to original WAC language except for the inclusion of “and document” in section (4) of the original WAC language:</p> <p>(3) The operating procedures shall be reviewed as often as necessary to assure that they reflect current operating practice, including changes that result from changes in process chemicals, technology, and equipment, and changes to facilities.</p> <p>(4) The employer shall certify and document annually that these operating procedures are current and accurate.</p>	<p>The original WAC language and sequencing was sufficient. As stated above in section (1), WSPA believes staffing levels are not necessary to be included in every operating procedure except when it deviates from normal staffing levels; therefore, there is no need to include updates to personnel as part of the review process. This would be captured in management of change if required.</p> <p>Inclusion of “safe” following “reflect” in section (3) in the discussion draft is redundant with section (1), “...clear instructions for safely conducting activities...”</p> <p>See section (5) of the Discussion Draft for additional comments.</p>
	(4) The employer must develop, implement, and maintain effective safe work practices to prevent or control hazards during operations applicable to both host employer employees and contractor employees. Safe work	<p>Revert to original WAC language except for as highlighted in (e), (f), and (g) below:</p> <p>(5) The employer shall develop and implement safe work practices to</p>	<p>Original WAC language is sufficient. WSPA believes that the original section (5) addresses application to employees and contractor employees.</p> <p>WSPA recommends deleting section (4)(e) in the</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>practices must be established for specific activities that include:</p> <ul style="list-style-type: none"> <li>(a) Lockout/tagout;</li> <li>(b) Confined space entry;</li> <li>(c) Opening process equipment or piping;</li> <li>(d) Control over entrance into a facility by maintenance, contractor, laboratory, or other support personnel;</li> <li>(e) Response to the over-pressurizing or overheating of equipment or piping;</li> <li>(f) The handling of leaks, spills, releases, or discharges of highly hazardous materials.</li> <li>(i) Define the conditions for handling leaks, spills, or discharges that provide a level of protection that is functionally equivalent to, or safer than, shutting down or isolating the process;</li> <li>(ii) Isolate any vessel, piping, and equipment where a leak, spill, or discharge is occurring;</li> <li>(iii) Shutdown and depressurize all process operations where a leak, release, or discharge is occurring.</li> <li>(g) Any other hazard that requires the documentation of safe work practices.</li> </ul>	<p>provide for the control of hazards during operations such as:</p> <ul style="list-style-type: none"> <li>(a) Lockout/tagout;</li> <li>(b) Confined space entry;</li> <li>(c) Opening process equipment or piping;</li> <li>(d) Control over entrance into a facility by maintenance, contractor, laboratory, or other support personnel;</li> <li>(e) <b>The handling of leaks, spills, releases, or discharges of highly hazardous materials;</b></li> <li>(f) <b>Stop work authority; and</b></li> <li>(g) <b>Hot work.</b></li> </ul> <p>These safe work practices shall apply to employees and contractor employees.</p>	<p>Discussion Draft. It is redundant with operating limits which are included in Operating Procedures and PSI.</p> <p>WSPA agrees with the inclusion of “handling of leaks, spills, releases...”, however WSPA recommends not including sections (4)(f)(i) through (iii) in a performance based standard. Similar detail is not mandated in this section for other safe work practices.</p> <p>WSPA recommends moving Stop Work Authority from Employee Collaboration of the Discussion Draft to this section of WSPA’s suggested changes, as exemplified in section (f). See additional comments above, under the Employee Collaboration Section of the Discussion Draft.</p> <p>WSPA recommends 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.</p> <p>WSPA recommends deleting section (4)(g) of the Discussion Draft. WSPA is unclear how companies would comply with this part of the Discussion Draft or how regulators would enforce this requirement. As currently written, the section broadens the applicability beyond just process safety and will be redundant with other WAC and OSHA standards.</p>
	<p>(5) The employer must annually certify and document that these operating procedures are current and accurate.</p>	<p>Revert to original WAC language and sequence except for the inclusion of “and document”.</p> <p>(4) The employer shall certify and document annually that these</p>	<p>WSPA agrees that documentation is appropriate.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
		operating procedures are current and accurate.	

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<b>Training</b>	<p>(1) Initial training. Each employee, including contract employees presently involved in or maintaining a process, and each employee before being involved in operating or maintaining a newly assigned process, must be trained in an overview of the process and in the operating procedures. The training must include emphasis on specific safety and health hazards, emergency operations, and safe work practices applicable to the employee's job tasks.</p>	<p>Revert to original WAC language with the exception of changes highlighted below:</p> <p>(1) Initial training.</p> <p>(a) Each employee presently involved in operating a <b>covered</b> process, and each employee before being involved in operating a newly assigned <b>covered</b> process, shall be trained in an overview of the <b>covered</b> process and in the operating procedures as specified in WAC 296-67-021. The training shall include emphasis on the specific safety and health hazards, emergency operations including shutdown, and safe work practices applicable to the employee's job tasks.</p> <p>(b) In lieu of initial training for those employees already involved in operating a <b>covered</b> process on May 26, 1992, an employer may certify in writing that the employee has the required knowledge, skills, and abilities to safely carry out the duties</p>	<p>WSPA believes the original WAC language is sufficient. The original WAC language correctly and appropriately addresses training of employees involved in <u>operating</u> a covered process.</p> <p>The Discussion Draft confounds the responsibilities of maintenance personnel with operators. Specifically:</p> <ul style="list-style-type: none"> <li>• Operating procedures are step-by-step instructions for the tasks involved with operating the covered process. Training of maintenance personnel (employee or contract) in operating procedures is unnecessary for these individual to perform their tasks safely.</li> <li>• Information necessary to perform maintenance and contractor tasks safely, such as hazards of the process and safe work practices is already covered in other Sections of the original WAC rule (e.g., Contractors and Mechanical Integrity).</li> </ul> <p>Previous language allowed requirements for phasing-in or grandfathering, but has been eliminated from this version. It is needed to be retained as there are still employees who were trained before 1992.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
		and responsibilities as specified in the operating procedures.	
	2) Refresher and supplemental training. Effective refresher and supplemental training must be provided at least every three years, and more often if necessary, to each maintenance and operations employee involved in operating a process to ensure that the employee understands and adheres to the current maintenance and operating procedures of the process. The employer, in consultation with the employees involved in operating the process, must determine the appropriate frequency of refresher training.	<p>Revert to original WAC language with the exception of changes highlighted below:</p> <p>(2) Refresher training. Refresher training shall be provided at least every three years, and more often if necessary, to each employee involved in operating a <b>covered</b> process to assure that the employee understands and adheres to the current operating procedures of the <b>covered</b> process. The employer, in consultation with the employees involved in operating the <b>covered</b> process, shall determine the appropriate frequency of refresher training.</p>	<p>WSPA believes the original WAC language is sufficient. The original WAC language correctly and appropriately addresses refresher training of employees involved in <u>operating</u> a covered process. The proposed language introduces confusion, particularly with regard to “supplemental training”. Based on WSPA’s understanding of L&amp;I’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.</p> <p>WSPA does not believe the draft discussion document requires a new term called “supplemental training”.</p> <p>Maintenance employees do not operate a process. Information necessary to perform their tasks safely, such as hazards of the process and safe work practices is already covered in other Sections of the original WAC rule (e.g., Contractors and Mechanical Integrity).</p>
	(3) Training certification. The employer must ensure that each employee involved in operating and maintaining a process has received, understood and successfully completed training. The employer, after the initial or refresher training, must prepare a certification record, which contains the identity of the	<p>Revert to original WAC language with the exception of changes highlighted below:</p> <p>(3) Training Documentation: the employer shall ascertain that each employee involved in operating a <b>covered</b> process has received, understood <b>and successfully</b></p>	<p>The original WAC language is well understood and appropriately addressed the need for Training Documentation.</p> <p>The proposed changes do not materially change the intent and only add confusion, for example, changing the title “Training Documentation” to “Training Certification”.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	employee, the date of training, the signature(s) of the person(s) who administered the training, and the means used to verify that the employee understood the training.	<b>completed</b> the training required by this section. The employer shall prepare a record which contains the identity of the employee, the date of training, and the means used to verify that the employee understood the training.	WSPA agrees with the addition of “successful completion” of the training.  WSPA does 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). Roles and responsibilities for ensuring understanding of the material are already defined in WSPA member companies’ training programs.
	(4) The employer must develop, implement, and maintain an effective written program that includes the following:  (a) The requirements that an employee must meet in order to be designated as qualified; and,  (b) Employee testing procedures to verify understanding and to ensure competency in job skill levels and work practices that protect employee safety and health.	Modify as follows:  4) The employer must develop and implement a written program that includes the following:  (a) The requirements that an employee involved in operating a covered process must meet in order to be designated as qualified; and,  (b) Testing procedures for employees involved in operating a covered process to verify understanding and to ensure competency in job tasks, operating procedures and safe work practices.	WSPA believes 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.
	(5) The employer must develop, implement, and maintain an effective training program to ensure that all affected employees are aware of and understand all PSM elements described in this section. Employees and employee representatives participating in a	Modify as follows:  (5) The employer must develop and implement a training program to ensure that affected employees are trained in an overview of the PSM elements described in this section.  (6) The employer must train team	WSPA agrees that training of affected employees in an overview of PSM elements is value-added.  WSPA supports 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

## **WSPA Comment Matrix on the Discussion Draft**

<b>Section</b>	<b>WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)</b>	<b>Suggested Changes</b>	<b>Basis for Change</b>
	team must be trained in the PSM elements relevant to that team.	members participating in an activity specified in this rule in an overview of the methodologies and techniques applicable to that team.	factors. WSPA believes that it provides more clarity and ensures consistency to present this requirement in the Training Section rather than distributed throughout the rule.
	(6) The employer must provide for employee collaboration in developing and implementing the training program.	Remove.	WSPA believes employee collaboration is redundant here and is already covered in the Employee Collaboration Section of this Discussion Draft.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<b>Contractors</b>	<p>(1) Application. This section applies to contractors performing maintenance, 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.</p>	<p>Revert to original WAC language:</p> <p>(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.</p>	<p>The deletion of the word “or” between maintenance and repair creates an unexplained and unnecessary distinction between a maintenance contractor and a repair contractor.</p> <p>WSPA believes that the original WAC language appropriately describes maintenance or repair contractors.</p>
	<p>(2) Employer responsibilities.</p> <p>(a) The employer, when selecting a contractor, 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.</p> <p>(b) The employer must inform contract employers of the known potential fire, explosion, or toxic release hazards related to the contractor’s work and the process. The employer must ensure that the contractor has informed each of its employees of the following:</p> <p>(i) Potential process safety hazards</p>	<p>Revert to original WAC language with the exception of changes highlighted below:</p> <p>(2) Employer responsibilities.</p> <p>(a) The employer, when selecting a contractor, shall obtain and evaluate information regarding the contract employer’s safety performance and programs.</p> <p>(b) The employer shall inform contract employers of the known potential fire, explosion, or toxic release hazards related to the contractor’s work and the <b>covered</b> process.</p> <p>(c) The employer shall explain to contract employers the applicable provisions of the emergency action plan required by WAC 296-67-053.</p> <p>(d) The employer shall develop and implement safe work practices consistent with WAC 296-67-021, to</p>	<p>With regard to section (2)(a) of the Discussion Draft, the original WAC language focused on the safety performance of the contractor versus an evaluation of the contractors 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.</p> <p>Further in section (2)(a), 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 other original WAC rule.</p> <p>In section (2)(b), WSPA believes that the proposed addition of the language “The employer must ensure that the contractor has informed each of its employees of the following:” and the associated</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>associated with the contractor's work;</p> <p>(ii) Applicable refinery safety rules; and</p> <p>(iii) Applicable provisions of this section, including the provisions of <b>WAC 296-XX-XXX</b>, Emergency Planning and Response Plan.</p> <p>(c) The employer must develop, implement and maintain effective written procedures and safe work practices, to control the entrance, presence and exit of contract employers and contract employees in covered process areas.</p> <p>(d) The employer must periodically evaluate the performance of contract employers in fulfilling their obligations as specified in this section. The employer must ensure and document that the requirements of this section are performed and completed by the contractor.</p> <p>(e) The employer must maintain a contract employee injury and illness log related to the contractor's work in process areas.</p>	<p>control the entrance, presence, and exit of contract employers and contract employees in covered process areas.</p> <p>(e) The employer shall periodically evaluate <b>and document</b> the performance of contract employers in fulfilling their obligations as specified in section (3) of this section.</p> <p>(f) The employer shall maintain a contract employee injury and illness log related to the contractor's work in <b>covered</b> process areas.</p>	<p>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(b)(i) and 2(b)(ii) are already encompassed in the original WAC language. Section 2(b)(iii) is covered under the original WAC section (2)(c).</p> <p>Further, section (2)(c) of, the original WAC language correctly and appropriately describes the employer's obligation to explain the applicable provisions of the emergency action plan as required by WAC 296-67-053. In addition, WSPA believes that the original WAC language correctly and appropriately describes the need to develop and implement safe work practices to control the entrance, presence, and exist of contract employees in covered process areas. The addition of "...implement and maintain effective written procedures ..." is unnecessary in a performance based regulation. The original WAC language included a reference back to the safe work practices under the Operating Procedures Section, which clarifies the applicable safe work practices.</p> <p>The original WAC language correctly and appropriately requires the employer to periodically evaluate the contract employers' obligations under section (3). The addition of an employer requirement in section 2(d) of the Discussion Draft to "...ensure and document that the requirements of this section are performed and completed by the contractor..." raises co-employment issues and duplicates the enforceable requirement already placed upon the contract employer by section (3). In determining whether two entities constitute joint employers of an employee, courts in most</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
			<p>jurisdictions consider a number of factors that include (1) whether the entities supervise and control the employee's conditions of employment, and (2) whether the entities maintain employment records. The requirements of section (2)(d) would obligate the employer to exercise control over the contractor's personnel policies and procedures, the training that is provided to the contractor's employees, and the manner in which the contractor's employees perform their work. The employer would also be obligated to maintain employment records regarding the same. Accordingly, 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.</p> <p>With regard to section (2)(e) of the Discussion Draft, WSPA does not object to the addition of "... and document ..." from proposed section (2)(d) of the Discussion Draft which is consistent with original practice and a natural expectation with regard to demonstrating compliance.</p> <p>WSPA's proposed section (2)(f) is the same concept as section (2)(e) of the Discussion Draft.</p>
	<p>(3) Contract employer responsibilities.</p> <p>(a) The contract employer must ensure that each contract employee is trained in the work practices necessary to safely perform his/her job, including:</p> <p>(i) Potential process safety hazards</p>	<p>Revert to original WAC language with the exception of changes highlighted below:</p> <p>(3) Contract employer responsibilities.</p> <p>(a) The contract employer shall assure that each contract employee is trained in the work practices necessary to</p>	<p>WSPA believes that sections (3)(a) and (3)(b) and the addition of sections (3)(a)(i), (ii), and (iii) from the Discussion Draft duplicate the requirements of the original WAC sections (3)(b) and (3)(d) and are therefore unnecessary and should be deleted. The original WAC language correctly mirrors the original WAC section (2)(b) with appropriate distinctions between the obligations of the employer and the</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>related to their jobs;</p> <p>(ii) Applicable refinery safety rules;</p> <p>(iii) The specific actions to take in an emergency; and</p> <p>(iv) Other applicable provisions of this section, including the provisions of the emergency action or response plan.</p> <p>(b) The contract employer must document that each contract employee has received and understood the training required by this section. The contract employer must prepare a record, which contains the identity of the contract employee, the date of training, and the means used to verify that the employee understood the training.</p> <p>(c) The contract employer must advise the employer of any specific hazards presented by the contract employer's work, or of any hazards identified by the contractor while performing work for the host employer.</p>	<p>safely perform his/her job.</p> <p>(b) The contract employer shall assure that each contract employee is instructed in the known potential fire, explosion, or toxic release hazards related to his/her job and the covered process, and the applicable provisions of the emergency action plan.</p> <p>(c) The contract employer shall document that each contract employee has received and understood the training required by this paragraph. The contract employer shall prepare a record which contains the identity of the contract employee, the date of training, and the means used to verify that the employee understood the training.</p> <p>(d) The contract employer shall assure that each contract employee follows the safety rules of the facility including the safe work practices required by WAC 296-67-021.</p> <p>(e) The contract employer shall advise the employer of any unique hazards presented by the contract employer's work, or of any hazards found by the contract employer's work.</p>	<p>contract employer and no change from original is required, as stated above. Segregation into sub bullets is not necessary.</p> <p>Note that section (3)(c) of the original WAC language is the same as proposed section (3)(b) in the Discussion Draft.</p> <p>Section (3)(d) of the original WAC language correctly and appropriately includes a requirement for the contract employer to assure their employees follow safe work rules of the facility. The Discussion Draft deleted this requirement.</p> <p>In addition, section (3)(e) of the original WAC language correctly and appropriately described the obligation of the contract employer to inform the employer of any hazards presented by the contract employer's work. The proposed edits introduce unnecessary and undefined changes. The word "unique" versus "specific" should remain as in the original language.</p>

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
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## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<b>033 Pre Startup Safety Review</b>	<p>(1) The employer must perform a prestartup safety review (PSSR) for new facilities and for modified facilities when the modification is significant enough to require a change in the process safety information (PSI). The employer must not move forward with a process startup until all prestartup safety review sections have been resolved and processing systems and components are in place and in appropriate condition for that startup.</p>	<p>Revert to original WAC language:</p> <p>(1) The employer shall perform a prestartup safety review for new facilities and for modified facilities when the modification is significant enough to require a change in the process safety information.</p>	<p>WSPA believes that the original WAC language is sufficient. Section (2) of the original WAC language ensures that appropriate measures for prestart up safety reviews are in place before start up.</p> <p>The second sentence of the Discussion Draft inappropriately limits process startup until a PSSR has been fully completed. However, modifications can be safely implemented on an individual equipment component (e.g., spare pump) while the process is running. In that case, the modified equipment would not be put into service until a PSSR for that piece of equipment is completed. Therefore, WSPA recommends reverting to the original WAC language.</p>
	<p>(2) The prestartup safety review must confirm that prior to the introduction of highly hazardous chemicals to a process:</p> <p>(a) Construction, maintenance and repair work has been performed in accordance with design specifications;</p> <p>(b) Effective safety, operating, maintenance, and emergency procedures are in place and are adequate;</p> <p>(c) For new processes, a process hazard analysis (PHA), hierarchy of hazard controls analysis (HCA), damage mechanism review (DMR), and safeguard protection analysis</p>	<p>Revert to original WAC language with the exception of changes highlighted below:</p> <p>(2) The prestartup safety review shall confirm that prior to the introduction of highly hazardous chemicals to a <b>covered</b> process:</p> <p>(a) Construction and equipment is in accordance with design specifications;</p> <p>(b) Safety, operating, maintenance, and emergency procedures are in place and are adequate;</p> <p>(c) For new facilities, a process hazard analysis has been performed and recommendations have been resolved or implemented before startup; and modified facilities meet the</p>	<p>WSPA believes the original WAC language is sufficient to describe the requirements of PSSR except where noted below.</p> <p>WSPA believes that the use of the words “covered process” provide needed focus on process safety. Consistent use of the term “covered process” will provide clarity to the regulator and regulated community.</p> <p>With regard to section (2)(a), maintenance and repair restores a piece of equipment; it does not necessarily modify it. If a modification is made and process safety information is impacted, pre-startup safety review would be triggered.</p> <p>Consistent with other comments from WSPA, the concepts of hierarchy of controls principles, damage mechanism reviews and assessment of safeguards are not called out specifically here as</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>(SPA) have been performed and recommendations have been resolved or implemented before startup; and modified facilities meet the requirements contained in management of change;</p> <p>(d) Training of each operations, maintenance, or other affected employee involved in operating a process has been completed.</p>	<p>requirements contained in management of change, WAC 267-67-045.</p> <p>(d) Training of each employee involved in operating a <b>covered</b> process has been completed.</p>	<p>they are incorporated into the Process Hazards Analysis (PHA) Section and should not be duplicated.</p> <p>WSPA believes that the training of maintenance or other affected employees is properly covered in the Management of Change section, and should not be duplicated here in section 2(d).</p>
	<p>(3) The employer must involve operating or maintenance employees in the PSSR who have expertise and experience in the operations and engineering of the process being started. An operating employee who currently works in the unit and who has expertise and experience in the process being started must be designated as the employee representative.</p>	<p>Replace section with the following</p> <p>(3) The employer must involve operating or maintenance employees, as appropriate, in the PSSR who have knowledge and experience in the operations or maintenance of the new or modified facility.</p>	<p>WSPA agrees 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.</p> <p>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.</p>

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<b>037 Mechanical Integrity</b>	<p>(1) Application. This section applies to all process equipment.</p>	<p>Revert to original WAC language with the exception of changes highlighted below:</p> <p>(1) Application. Sections (2) through (6) apply to the following <b>equipment in a</b></p>	<p>The original WAC language is specific to equipment associated with high hazards. WSPA is concerned that the current definition of “process” and scope is overly broad and the inclusion of all equipment into a mechanical</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
		<p><b>covered process:</b></p> <ul style="list-style-type: none"> <li>(a) Pressure vessels and storage tanks;</li> <li>(b) Piping systems (including piping components such as valves);</li> <li>(c) Relief and vent systems and devices;</li> <li>(d) Emergency shutdown systems;</li> <li>(e) Controls (including monitoring devices and sensors, alarms, and interlocks);</li> <li>(f) Pumps <b>and compressors</b>; and</li> <li>(g) <b>Process heaters.</b></li> </ul>	<p>integrity program would not achieve the goal of reducing the risk of accidental releases of highly hazardous chemicals. For example, including gasoline pump for fueling vehicles in the mechanical integrity program does not address high hazard concerns with the potential of catastrophic incidents. As it is stated now, it includes equipment that is not involved with the handling of highly hazard chemicals (e.g., cooling tower).</p> <p>WSPA does recognize that there may be specific equipment that should be added in the applicability of the section (e.g., compressors and process heaters).</p>
	<p>(2) Written procedures. The employer must develop, implement, and maintain effective written procedures to ensure the ongoing integrity of process equipment. These procedures must include a documented review of industry leading factors.</p> <p>(a) The procedures must provide clear instructions for safely conducting maintenance activities on process equipment, consistent with the PSI.</p> <p>(b) The procedures and inspection documents developed under this section must be readily accessible to employees and employee representatives.</p>	<p>Revert to original WAC language with the exception of changes highlighted below:</p> <p>2) Written procedures. The employer shall establish and implement written procedures to maintain the ongoing integrity of process equipment, <b>including consideration of human factors.</b></p>	<p>The original WAC language is sufficient but WSPA feels that it would be beneficial to include consideration of human factors rather than having it as a standalone Section of the Discussion Draft.</p> <p>The additional requirements included in the Discussion Draft add complexity and are potentially confusing. For example, L&amp;I has not defined the following terms: “documented review of industry leading factors”, “consistent with the PSI” and “inspection documents”.</p> <p>WSPA is also unclear as to the intent of section (2)(a). 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,</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
			<p>then that issue is addressed by occupational safety rules and work practices, such as job safety analyses (JSAs).</p> <p>In section (2)(b), 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.</p>
	<p>(3) Training for process maintenance activities. The employer must train each employee involved in maintaining the ongoing integrity of process equipment in an overview of that process and its hazards and in the procedures applicable to the employee's job tasks to ensure that the employee can perform the job tasks in a safe manner.</p>	<p>Revert to original WAC language with the exception of changes highlighted below:</p> <p>3) Training for <b>covered</b> process maintenance activities. The employer shall train each employee involved in maintaining the ongoing integrity of process equipment in an overview of that <b>covered</b> process and its hazards and in the procedures applicable to the employee's job tasks to assure that the employee can perform the job tasks in a safe manner.</p>	<p>The original WAC language is sufficient. WSPA has commented in the Training Section that this is the paragraph where training for maintenance is already covered.</p>
	<p>(4) Inspection and testing.</p> <p>(a) Inspections and tests must be performed on process equipment.</p> <p>(b) Inspection and testing procedures must meet or exceed recognized and generally accepted good engineering practices (RAGAGEP).</p> <p>(c) The frequency of inspections</p>	<p>Revert to original WAC language with the exception of changes highlighted below:</p> <p>(4) Inspection and testing.</p> <p>(a) Inspections and tests shall be performed on process equipment, <b>as specified in Section (1)</b>.</p> <p>(b) Inspection and testing procedures shall follow recognized and generally accepted good engineering practices</p>	<p>The original WAC language is sufficient with minor edits for clarity. As discussed in other sections, WSPA is concerned that broadening applicability as suggested in the Discussion Draft will detract from prevention and/or mitigation of process safety hazards. For example, the definition of "process equipment" and "process" in section (4)(a) of the Discussion Draft includes equipment that is not involved with the handling of highly hazard chemicals</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>and tests of process equipment must be consistent with:</p> <p>(i) The applicable manufacturers' recommendations;</p> <p>(ii) recognized and generally accepted good engineering practices (RAGAGEP);</p> <p>(iii) Operating history of process equipment; and</p> <p>(iv) Internal practices that are at least as or more protective than (i), (ii) or (iii) of this section.</p> <p>(v) Inspections must be done more frequently if determined to be necessary by prior operating experience.</p> <p>(d) The employer must retain documentation for each inspection and test that has been performed on process equipment. The documentation 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 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.</p>	<p><b>(RAGAGEP).</b></p> <p>(c) The frequency of inspections and tests of process equipment shall be consistent with applicable manufacturers' recommendations and <b>recognized and generally accepted</b> good engineering practices <b>(RAGAGEP)</b>, and more frequently if determined to be necessary by prior operating experience <b>or inspection history.</b></p> <p>(d) The employer shall document each inspection and test that has been performed on process equipment. The documentation shall identify the date of the inspection or test, the name of the person who performed the inspection or test, the serial number or other 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.</p>	<p>(e.g., cooling tower). WSPA has added the reference to section (1) to clarify applicability of these requirements.</p> <p>Section (4)(c) 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 WSPA comments to include the OSHA interpretation of RAGAGEP which includes internal standards that are equal to or more stringent than RAGAGEP.</p> <p>WSPA believes that inspection results should be considered in determining inspection frequencies and recommends adding "or inspection history" at the end of section (4)(c), as implied in section (4)(c)(v).</p>
	(5) Equipment deficiencies.	Revert to original WAC language with the	The original WAC language is sufficient with minor edits for clarity. The specific definition of

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>(a) The employer must correct deficiencies in equipment that are outside acceptable limits (defined by the process safety information (PSI)) before further use or in a safe and timely manner when necessary means are taken to ensure safe operation. For purposes of this section, "Safe and timely" is defined as the first outage after the deficiency is detected or when a temporary repair fails one time, whichever occurs first.</p> <p>(b) Repair methodologies must be consistent with RAGAGEP or more protective methodologies.</p>	<p>exception of changes highlighted below:</p> <p>5) Equipment deficiencies.</p> <p>(a) The employer shall correct deficiencies in equipment that are outside acceptable limits defined by the process safety information (PSI) in WAC <u>296-67-013</u> before further use or in a safe and timely manner when necessary means are taken to assure safe operation.</p> <p><b>(b) The employer shall have a process for evaluating excursions beyond safe upper and lower limits as defined in the PSI Section.</b></p>	<p>"safe and timely" in this section of the Discussion Draft is not needed. WSPA is concerned that deficiencies can be simple or complex and some may not be able to be addressed by or at the first outage. There may be long lead time for delivery of parts or materials. The issue of safety is already addressed with the 1<sup>st</sup> sentence in the original language.</p> <p>Section (5)(b) is not necessary. Equipment must be repaired consistent with process safety information. Therefore, the method of repair would not be required to be specified in a rule.</p> <p>WSPA agrees an evaluation should be conducted following an excursion and believes it is most appropriate in the Equipment Deficiencies section, versus Quality Assurance (see below for further discussion).</p>
	<p>(6) Quality assurance.</p> <p>(a) In construction of new plants and equipment, the employer must ensure that equipment, as it is fabricated, is suitable for the process application for which they will be used. If the employer installs new process equipment or has existing process equipment for which no RAGAGEP exists, the employer must document and ensure that this equipment is designed, constructed, installed, maintained, inspected, tested and operated in a safe manner.</p>	<p>Revert to original WAC language:</p> <p>(6) Quality assurance.</p> <p>(a) In the construction of new plants and equipment, the employer shall assure that equipment as it is fabricated is suitable for the process application for which they will be used.</p> <p>(b) Appropriate checks and inspections shall be performed to assure that equipment is installed properly and consistent with design specifications and the manufacturer's instructions.</p> <p>(c) The employer shall assure that maintenance materials, spare parts and</p>	<p>The original WAC language is sufficient. The added language in sections (6)(a) and (6)(e) is covered in the Process Safety Information (PSI) Section of the original WAC language.</p> <p>WSPA believes checks and inspections to ensure that equipment as installed meets design specification as specified in section (6)(b) of the original WAC language is important and should be retained.</p> <p>Sections (6)(b) and (6)(c) in the Discussion Draft do not seem to fit under "Quality Assurance".</p> <p>The requirement to inspect "substantially similar equipment" is subjective and overly broad. For</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>(b) Once an equipment deficiency is identified, substantially similar equipment throughout other areas of the facility must be evaluated for the same deficiency.</p> <p>(c) Vessels, piping, and all affected equipment must be inspected after each power outage, emergency shut down, emergency operation, or other detrimental processing event. The service life of the equipment must be re-evaluated in order to identify any deficiencies that may have adversely impacted its original service life.</p> <p>(d) The employer must establish a process for evaluating new or updated codes and standards and implementing changes as appropriate to ensure safe operation.</p> <p>(e) The employer must ensure that all process equipment at a minimum complies with the criteria established by the PSI. The employer must ensure that all process equipment is:</p> <p>(i) Suitable for the process application for which it is or will be used;</p> <p>(ii) Fabricated from the proper materials of construction; and</p> <p>(iii) Designed, constructed,</p>	<p>equipment are suitable for the process application for which they will be used.</p>	<p>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.</p> <p>Power outages range from affecting single piece of equipment to affecting all equipment in the facility. There may be many power outages that do not exceed safe upper and lower limits such that it becomes a safety concern. WSPA believes that assessments should be made following an event that results in an excursion beyond the safe upper or lower limits of the equipment as identified in WSPA's addition of section (5)(b) above. Additionally, there are some instances when inspection data would not provide useful information, but an engineering assessment would. For example, if pressure in a vessel exceeds the code-allowable accumulation pressure but is below hydrotest pressure. An engineering assessment is the only means of assuring continued safe operation – there is no way to inspect for this.</p> <p>Sections (6)(d) and (6)(e) of the Discussion Draft are stated under the PSI Section of the standard and should not be duplicated in this section.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	installed, maintained, inspected, tested, operated and replaced in compliance with manufacturer's and other design specifications and all applicable codes and standards.		

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<b>Hot Work Permit</b>	(1) The employer must issue a hot work permit prior to the commencement of hot work operations conducted on or near a covered process.	No changes.	
	(2) The permit must document that fire prevention and protection requirements were implemented prior to beginning the hot work operations. The permit must: (a) Indicate the date(s) and time(s) authorized for hot work; (b) Identify the object on which hot work is to be performed; (c) Identify the name and employer of the party performing the hot work. (d) Document an expiration date.	Modify with change highlighted below:  (2) The permit must document that fire prevention and protection requirements <b>in WAC 296-24-695</b> were implemented prior to beginning the hot work operations. The permit must: (a) Indicate the date(s) and time(s) authorized for hot work; (b) Identify the object on which hot work is to be performed; (c) Identify the name of the employer performing the hot work.	WSPA believes that, in section (2), a reference to WAC 296-24-695 should remain in order to ensure that clear requirements are defined.  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. Additionally, by definition, the expiration date (from section (2)(d)) is included in the timespan authorized for work.
	(3) The employer must develop, implement and maintain an effective written procedure for the issuance	Remove and add "Hot Work" to the list of safe work practices in the Operating	This approach would place all of the safe work practices into one location within the regulation.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	of hot work permits.	Procedures Section.	
	(4) The permit must be kept on file for one year.	Modify with change highlighted below: (4) The permit must be kept on file for 30 days.	WSPA believes that 30 days is sufficient to support incident investigation and auditing processes.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<b>Management of change</b>	<p>(1) The employer must develop, implement, and maintain effective written procedures to manage changes (except for “replacements in kind”) to process chemicals, technology, equipment, and procedures; and, changes to facilities that affect a covered process. The management of change (MOC) procedure must include provisions for temporary repairs, including temporary pipe repairs.</p>	<p>Revert to original WAC language with the exception of changes highlighted below:</p> <p>(1) The employer shall establish and implement written procedures to manage <b>temporary and permanent changes</b> (except for “replacements in kind”) to process chemicals, technology, equipment, and procedures; and, changes to <b>organization or</b> facilities that affect a covered process.</p>	<p>The original WAC language is sufficient with the recommended changes. WSPA agrees with the addition of temporary changes; to simplify language, WSPA recommends inserting the words “temporary and permanent” in the first sentence after the word “manage,” and deleting the second sentence of the Discussion Draft.</p> <p>WSPA agrees with the concept of “organizational change” and believes it is appropriate to include organization change in the existing Management of Change (MOC) Section rather than a standalone section for managing organizational changes.</p>
	<p>(2) The MOC procedures must ensure that the following considerations are documented and addressed prior to any change:</p> <p>(a) The technical basis for the proposed change;</p> <p>(b) Impact of change on safety and health;</p> <p>(c) Modifications to operating and maintenance procedures, or development of new operating and maintenance procedures;</p> <p>(d) Necessary time period for the change; and</p> <p>(e) Authorization requirements for the proposed change.</p>	<p>Revert to original WAC language with the exception of changes highlighted below:</p> <p>(2) The procedures shall assure that the following considerations are addressed prior to any change:</p> <p>(a) The technical basis for the proposed change;</p> <p>(b) Impact of change on safety and health <b>using a technique relative to the complexity and nature of the change;</b></p> <p>(c) Modifications to operating <b>and maintenance</b> procedures, <b>or development of new operating and maintenance procedures;</b></p> <p>(d) <b>Impact on damage mechanisms for major changes;</b></p>	<p>WSPA suggests several changes to this section.</p> <p>For section (2)(b), WSPA believes the requirement in section (9) in the Discussion Draft is more appropriately included in this section.</p> <p>For section (2)(c), WSPA supports the addition of maintenance procedures and the development of new operating and maintenance procedures.</p> <p>WSPA proposes new sections (2)(d) and (2)(e): additional requirements for evaluating the impact on damage mechanisms and evaluating the change using hierarchy of controls principles was moved to this listing of management of change requirements instead of being standalone Sections in section (8) of the Discussion Draft.</p> <p>WSPA also proposes a new section (2)(f): additional requirements for evaluating the impact of human factors was moved to this listing of management of change requirements instead of</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
		<p>(e) Hierarchy of control principles for major changes;</p> <p>(f) Human factors;</p> <p>(g) Necessary time period for temporary changes; and</p> <p>(h) Authorization requirements for the proposed change.</p>	<p>being standalone section of the Discussion Draft.</p> <p>In WSPA's proposed section (2)(g), the necessary time period was clarified to be required for temporary changes.</p> <p>WSPA notes that the considerations outlined in this section are also relevant to organizational changes.</p>
	<p>(3) Employees involved in operating a process and maintenance and contract employees whose job tasks will be affected by a change in the process must be informed of, and effectively trained in, the change prior to start-up of the process or affected part of the process.</p>	<p>Revert to original WAC language with the exception of changes highlighted below:</p> <p>(3) Employees involved in operating a covered process and maintenance and contract employees whose job tasks will be affected by a change in the covered process shall be informed of, and trained in, the change prior to start-up of the covered process or affected part of the covered process.</p>	<p>WSPA notes that adding the word "covered" appropriately limits management of change to changes affecting processes covered by the Application Section (WAC 296-67-001).</p>
	<p>(4) For contractors and employees of contractors who are operating the process and whose job tasks will be affected by a change, the employer must make the MOC documentation available and require effective training in the change in a timely manner, prior to implementation of the change.</p>	<p>Remove section.</p>	<p>WSPA believes that this section is redundant to section (3). As such, it should be removed from the section.</p>
	<p>(5) If a change covered by this section results in a change in the process safety information, such information must be updated</p>	<p>Revert back to the original WAC language, section (4):</p> <p>(4) If a change covered by this section results in a change in the process</p>	<p>WSPA believes that the original WAC language was sufficient and included the proper reference back to the section that applied.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	accordingly.	safety information required by WAC 296-67-013, such information shall be updated accordingly.	
	(6) If a change covered by this section results in a change in the operating procedures or practices, such procedures or practices must be updated accordingly.	Revert back to the original WAC language, section (5).  (5) If a change covered by this section results in a change in the operating procedures or practices required by WAC 296-67-021, such procedures or practices shall be updated accordingly.	WSPA believes that the original WAC language was sufficient and included the proper reference back to the section that applied.
	(7) The author, staff member, employer representative, or manager who is responsible for the management of change (MOC) document must participate in the MOC exercise with affected personnel; and certify in writing that the MOC evaluation is safe, complete, and all action sections are completed prior to executing the change.	Remove section.	WSPA believes that this section is not needed as this item is already addressed in section (2)(g) of WSPA's proposed changes to section (2)(e) of the Discussion Draft.
	(8) Prior to implementing a major change, the employer must review or conduct a damage mechanism review (DMR) and perform a hierarchy of hazard controls analysis (HCA). The findings of the DMR and recommendations of the HCA must be included in the MOC documentation	Remove this section and incorporate into WSPA's proposed section (2).	WSPA believes that these requirements are more appropriately addressed in section (2), which includes a listing of considerations for management of changes.
	(9) The employer must use qualified personnel and appropriate	Incorporate in section (2).	WSPA believes that these requirements are more

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	methods for all MOCs based upon hazard, complexity and type of change.		appropriately addressed in section (2)(b).
	(10) The employer must provide for employee collaboration.	Remove section.	Employee collaboration and employer responsibilities have already addressed in WSPA's comments and proposed changes to the Employee Collaboration Section of the Discussion Draft. Specifically, WSPA proposes that the Employee Collaboration Section of the Discussion Draft be replaced with the Employee Participation Section of the original WAC rule which sufficiently and appropriately describes the requirements for involving employees in the various sections of the WAC rule. Therefore, this section should be deleted.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<b>Incident Investigation – Root Cause Determination</b>	(1) The employer must develop, implement and maintain effective written procedures for promptly investigating and reporting any incident that results in, or could reasonably have resulted in, a major incident. The written procedures must include an effective method for determining the root cause of an incident.	<p>Retain the original title of <b>Incident Investigation</b> and revert to original WAC language:</p> <p>Incident Investigation</p> <p>(1) The employer shall investigate each incident which resulted in, or could have reasonably resulted in, a catastrophic release of a highly hazardous chemical in the workplace.</p>	<p>WSPA recommends retaining the original title for this PSM element, “Incident Investigation” and language in section (1).</p> <p>Original WAC language is well-understood.</p> <p>WSPA believes that determination of root cause is inherent in the investigation process and a specific reference is problematic because:</p> <ul style="list-style-type: none"> <li>• Term not defined in this regulation;</li> <li>• Different methodologies use different definitions of the term and some methodologies do not use the term at all; and</li> <li>• An event may have more than one root cause</li> </ul> <p>WSPA believes that reporting of incidents is addressed by other WAC rules.</p>
	(2) An incident investigation must be initiated as promptly as possible, but not later than forty-eight hours following the incident.	No change.	
	<p>(3) An incident investigation team must be established and consist of at least:</p> <p>(a) One person with expertise and experience in the process involved;</p> <p>(b) A contract employee if the incident involved work of the</p>	<p>Revert to original WAC (3) and section (2) and add new section (3):</p> <p>(2) An incident investigation team shall be established and consist of at least one person knowledgeable in the process involved, including a contract employee if the incident involved work of the contractor, and other persons with</p>	<p>WSPA believes the original WAC language is well understood.</p> <p>The Discussion Draft does not define “expertise” and, thus, leaves this definition up to subjective interpretation. Words like this should be eliminated from the rule. They are subject to opinion and are difficult to enforce.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>contractor;</p> <p>(c) A person with expertise in determining root causes of incidents;</p> <p>(d) A person with expertise in facilitating the investigation and analysis; and</p> <p>(e) Any other persons with appropriate expertise and experience to thoroughly investigate and analyze the incident.</p> <p>(f) The employer must provide for employee collaboration.</p>	<p>appropriate knowledge and experience to thoroughly investigate and analyze the incident.</p> <p>(3) The team must consider hierarchy of control principles when developing findings and recommendations, where appropriate.</p>	<p>The original WAC language contains the requirement for “persons with appropriate knowledge and experience to thoroughly investigate and analyze the incident” and does not need to be duplicated in sections (3)(c),(d), and (e) of the Discussion Draft.</p> <p>This is already addressed in the Employee Participation Section and should be deleted here. WSPA believes the addition of the consideration of hierarchy of controls principles to this section of the Discussion Draft is appropriate in proper circumstances.</p>
	<p>(4) A written report must be prepared at the conclusion of the investigation, which includes, at a minimum:</p> <p>(a) Date and time of the incident;</p> <p>(b) Date and time the investigation began;</p> <p>(c) A detailed description of the incident;</p> <p>(d) The factors that contributed to the incident including direct causes, indirect causes and root causes;</p> <p>(e) A list of any DMR(s), PHA(s), SPA(s), and HCA(s) that were reviewed as part of the investigation;</p> <p>(f) Documentation of relevant findings from the review of DMR(s),</p>	<p>Revert to original WAC language with the exception of change highlighted below:</p> <p>(4) A report shall be prepared at the conclusion of the investigation which includes at a minimum:</p> <p>(a) Date <b>and time</b> of incident;</p> <p>(b) Date investigation began;</p> <p>(c) A description of the incident;</p> <p>(d) The factors that contributed to the incident; and</p> <p>(e) Any recommendations resulting from the investigation.</p>	<p>WSPA believes the original WAC language is sufficient.</p> <p>In addition, WSPA believes the terms “direct, indirect and root” are specific to a certain methodology and should not be specified in a performance-based rule.</p> <p>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.</p> <p>The Discussion Draft does not define “interim safety measures”. Interim safety measures would not normally be considered to be part of the incident investigation and should not be required as documentation in the investigation report.</p> <p>Normally interim safety measures are implemented</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	PHA(s), SPA(s) and HCA(s); (g) Any recommendations resulting from the investigation; and (h) Interim safety measures implemented by the employer.		well before investigations are completed and it is superfluous to add them into the investigation report. The Mechanical Integrity Section already requires the employer to correct deficiencies or assure safe operation.
	(5) The employer must establish a system to promptly address and resolve the incident report findings and recommendations. Resolutions and corrective actions must be documented. The recommendations must include interim measures that will prevent a recurrence or similar incident until final corrective actions can be implemented.	Modify the original language WAC language:  (5) The employer shall establish a system to:  a) promptly address and resolve the incident report findings and recommendations; b) consider hierarchy of controls principles on recommendations, as appropriate; c) document resolutions and corrective actions for those recommendations.	The third sentence in this Discussion Draft section appears to imply that the investigation team is responsible for interim measures. The need for interim measures is the responsibility of the employer and is already required by the Mechanical Integrity Section for continued safe operations.  Furthermore, WSPA believes hierarchy of controls principles may be also appropriately applied by the employer to recommendations from incident investigations, as shown in the suggested wording. See additional comments on the Hierarchy of Controls Section of the Discussion Draft.
	(6) The incident investigation team must review the incident scenarios evaluated in the most recent PHA, and must revise the safeguard protection analyses (SPAs) in the PHA if necessary.	Remove section.	An incident investigation team reviews many documents of various types. Therefore, the reference to certain types of documents such as PHA(s) and SPA(s) should be deleted in keeping with a performance-based standard.  Also, the individuals in the investigation team may not be qualified to change the safeguard assessment.  If the investigation team determines that the safeguard assessment needs to be revised, they would develop a recommendation and a qualified team would resolve the recommendation.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>(7) Investigation reports must be provided within one week of its completion, and upon request, reviewed with employees whose job tasks are affected by the incident. Investigation reports must also be made available to all operating, maintenance and other personnel, including employees of contractors where applicable, whose work assignments are within the facility where the incident occurred or whose job tasks are relevant to the incident findings. Investigation reports must be provided on request to employee representatives and, where applicable, contractor employee representatives.</p>	<p>Revert to original WAC:</p> <p>(6) The report shall be reviewed with all affected personnel whose job tasks are relevant to the incident findings including contract employees where applicable.</p>	<p>WSPA believes the original WAC language is sufficient.</p> <p>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”.</p>
	<p>(8) The team must prepare a written investigation report within ninety 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 ninety calendar days of the incident and every thirty calendar days thereafter until the investigation is complete. The team must prepare a final investigation report within four months of the incident.</p>	<p>Remove section.</p>	<p>WSPA recognizes and agrees that the investigation process should not languish. However, specifying investigation time limits and requirements for interim reports is unnecessarily complicated, may unintentionally compromise the quality of the investigation, and is a distraction from the investigation process.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	(9) The employer must complete an HCA in a timely manner for all recommendations that result from the investigation of a major incident. The employer must attach the HCA report to the investigation report.	Remove section.	WSPA recommends relocating this requirement to sections (3) and (5) of the Discussion Draft.  Hierarchy of controls may or may not apply to all incident investigation recommendations. In instances where a recommendation requires a change, this change will be managed through the MOC process and hierarchy of control principles will apply per WSPA's recommendation in the MOC Section. 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.
	(10) Incident investigation reports must be retained for the life of the process.	No change.	Although this language differs from the Federal requirement, WSPA supports the change. WSPA notes that this is an example of where an effective date for this requirement will be necessary.

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<b>Emergency Planning and Response</b>	(1) The employer must develop, implement and maintain an effective emergency response or emergency action plan for the entire plant. An emergency response plan must define and include procedures for handling small releases.	Revert to original WAC language:  (1)The employer shall establish and implement an emergency action plan for the entire plant in accordance with the provisions of WAC 296-24-567. In addition, the emergency action plan shall include procedures for handling small releases. Employers covered under this	WSPA believes the original WAC language is well understood and implemented across industry and includes the reference to the relevant WAC rules which already define the necessary requirements.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
		<p>standard may also be subject to the emergency response provisions contained in chapter 296-824 WAC, Emergency Response to Hazardous Substance Releases.</p>	
	<p>(2) If the employer plans to rely on external emergency response organization during an emergency, it must document the nature and agreement between itself and any expected assistance from that entity. All drills, scenarios, response time sequences, and debrief action sections must be included in the documentation with the assistance and input by the external emergency response entity.</p>	<p>Remove section.</p>	<p>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.</p> <p>Additionally, the documentation requirements in the Discussion Draft 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.”</p> <p>The documentation requirements in this Discussion Draft 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.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Proposed Changes	Talking Points for Meeting
<b>Compliance audits</b>	<p>(1) Employers must certify that they have evaluated compliance with the provisions of this section at least every three years to verify that the procedures and practices developed under the standard are effective and are being followed.</p>	<p>Revert to the original WAC language:</p> <p>(1) Employers shall certify that they have evaluated compliance with the provisions of this section at least every three years to verify that the procedures and practices developed under the standard are adequate and are being followed.</p>	<p>The original WAC language is well understood and implemented across industry.</p> <p>In section (1), the proposed change from “adequate” to “effective” implies a difference or distinction that is undefined and unnecessary.</p>
	<p>(2) The compliance audit must be conducted by at least one person with expertise and experience in the process being audited. 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.</p>	<p>Revert to original WAC language with the exception of changes highlighted below:</p> <p>(2) The compliance audit shall be conducted by at least one person knowledgeable in the audit process and persons with knowledge and experience in the procedures and practices to be audited.</p>	<p>The original WAC language is sufficient (with modification).</p> <p>WSPA believes that the statement, “As part of the compliance audit, the employer must consult with operators with expertise and experience in each process audited” is already covered by the existing Employee Participation Section.</p> <p>WSPA is concerned with the statement “must document the findings and recommendations from these consultations in the written report.” An audit finding is a culmination of interviews, document reviews and observations. Not all material reviewed or comments obtained through interviews may support an actual audit finding or recommendation.</p> <p>Additionally, requiring documentation of all employee consultations is inconsistent with normal audit protocol and may discourage honest input from those who wish to remain anonymous.</p> <p>In WSPA’s proposed language, WSPA believes that adding the phrase “and persons with knowledge and experience in the procedures and practices to be audited” assures the audit team is staffed by persons with appropriate knowledge and experience. This approach incorporates the option for both specific experience and knowledge at the</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Proposed Changes	Talking Points for Meeting
			site being audited, as well as cold-eye review conducted by personnel external to the process or site.
	(3) The employer must promptly determine and document an appropriate response to each of the findings of the compliance audit, and document that deficiencies have been corrected.	Revert to original WAC language: (3) A report of the findings of the audit shall be developed. (4) The employer shall promptly determine and document an appropriate response to each of the findings of the compliance audit, and document that deficiencies have been corrected.	Section (3) of the original WAC language clearly required the development of an audit report. WSPA proposes the original WAC section (3) is added back into the Discussion Draft. Discussion Draft section (3) would then become Discussion Draft section (4).
	(4) The employer must make the report available to employees and employee representatives. The employer must respond in writing within sixty calendar days to any written comments submitted by an employee or employee representative regarding the report.	Remove section.	WSPA is unclear as to what problem or issue is L&I trying to resolve with this addition. 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. Additionally, 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

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Proposed Changes	Talking Points for Meeting
			<p>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.</p>
	<p>(5) Employers must retain the three most recent compliance audit reports.</p>	<p>Revert to the original WAC language: (5) Employers shall retain the two most recent compliance audit reports.</p>	<p>WSPA believes the original WAC language is sufficient.</p> <p>The proposed change from the “two” to the “three” most recent compliance audit reports is not explained and is not justified. WSPA believes retaining the previous three audit reports does not improve the PSM system.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<b>Trade Secrets</b>	<p>(1) Employers must make all information necessary to comply with the section available to those persons responsible for:</p> <p>(a) Compiling the process safety information (required by WAC 296-67-071);</p> <p>(b) Assisting in the development of the process hazard analysis (required by WAC 296-67-081);</p> <p>(c) Developing the operating procedures (required by WAC 296-67-085);</p> <p>(d) Incident investigations (required by WAC 296-67-113);</p> <p>(e) Emergency planning and response (WAC 296-67-117); and</p> <p>(f) Compliance audits (WAC 296-67-121) without regard to possible trade secret status of such information.</p>	<p>Revert to original WAC language:</p> <p>(1) Employers shall make all information necessary to comply with the section available to those persons responsible for compiling the process safety information (required by WAC 296-67-013), those assisting in the development of the process hazard analysis (required by WAC 296-67-017), those responsible for developing the operating procedures (required by WAC 296-67-021), and those involved in incident investigations (required by WAC 296-67-049), emergency planning and response (WAC 296-67-053) and compliance audits (WAC 296-67-057) without regard to possible trade secret status of such information.</p>	<p>WSPA believes the original WAC language is well understood and implemented across industry.</p> <p>The subtle changes in the Discussion Draft may have changed the original intent of the WAC. Specifically, those “involved” in incident investigation (under the original WAC language) versus those “responsible” for incident investigation (as is stated in the Discussion Draft) have different meaning. WSPA believes the former is what is most appropriately intended.</p>
	<p>(2) Nothing in this section must preclude the employer from requiring the persons to whom the information is made available under this section to enter into confidentiality agreements not to disclose the information as set forth in WAC 296-67-117.</p>	<p>Revert to original WAC language with highlighted modifications and update to WAC references:</p> <p>(2) Nothing in this section shall preclude the employer from requiring the persons to whom the information is made available under <b>this section</b> to enter into confidentiality agreements not to disclose the information as set forth in <b>WAC 296-901-14018</b>.</p>	<p>The original WAC language is well understood and implemented across industry. Additionally, it has the proper references to other WAC codes. Note that WAC 296-901-14018 refers to “Trade Secrets” as currently referenced from the General Occupational Health Standards, 296-62-053 from the original WAC language.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	(3) Subject to the rules and procedures set forth in WAC 296-67-117, employees and their designated representatives must have access to trade secret information contained within the process hazard analysis and other documents required to be developed by this standard.	<p>Revert to original WAC language and highlighted update to WAC references:</p> <p>(3) Subject to the rules and procedures set forth in <b>WAC 296-901-14018</b>, employees and employee representatives shall have access to trade secret information contained within the process hazard analysis and other documents required to be developed by this standard.</p>	<p>The original WAC language is well understood and implemented across industry. Note that WAC 296-901-14018 refers to “Trade Secrets” as originally referenced from the General Occupational Health Standards, 296-62-053.</p> <p>“Employee representatives” is defined in the Discussion Draft and has been used for consistency.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<p><b>Damage Mechanism Reviews</b></p>		<p>Remove the proposed DMR Section.</p> <p>Instead, add “corrosion information” to the list of process safety information pertaining to equipment in the covered process as section (3)(a)(ix).</p>	<p>WSPA believes that identifying corrosion information as process safety information integrates the concern of the industry and of L&amp;I that damage mechanisms that could result in a catastrophic release of highly hazardous chemicals into the fabric of the original WAC rule (i.e. PSI, Operating Procedures, PSSR, Mechanical Integrity, MOC, and Trade Secrets).</p> <p>API RP 970, Corrosion Control Documents, First Edition, December 2017 is an industry recommended practice for identification of damage mechanisms and creation of corrosion information for the express purpose of mitigating the risk of a loss of primary containment.</p> <p>Corrosion information contains appropriate information required to understand materials damage susceptibility issues in a specific type of operating process unit at a plant site. Corrosion information is a valuable addition to an effective Mechanical Integrity Program. They help to identify the damage mechanism susceptibilities of pressure-containing piping and equipment, factors that influence damage mechanism susceptibilities, and recommended actions to mitigate the risk of loss of containment or unplanned outages.”</p> <p>Additionally, this is another example of a situation where the proposed changes to the WAC rule are applicable to other facilities which are currently included in the original WAC rule; revision of the WAC language</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
			should not be limited to refiners.
	(1) The employer must complete a damage mechanism review (DMR) for each existing and new process for which a damage mechanism exists. Where no DMR is performed, the employer must document the rationale for the determination that no damage mechanisms exist. The employer must determine and document the priority order for conducting DMRs based on the process operating history, the PHA schedule, and inspection records.	Remove section.	<p>Incorporating corrosion information as PSI automatically invokes the development and update frequency associated with a PHA or management of change for new and existing covered processes.</p> <p>Implementation phase-in is appropriate for inclusion of new process safety information, such as corrosion information. Therefore, WSPA reserves the right to comment at a later date.</p>
	(2) The employer must complete no less than fifty percent of initial DMRs within three years and all remaining DMRs within five years of the effective date of this section. If the employer has conducted and documented a DMR for a process unit up to five years prior to the effective date of this section, and that DMR includes the elements identified in <b>section xxx</b> , that DMR may be used to satisfy the employer's obligation to complete an initial DMR under this section.	Remove section.	<p>Corrosion information as PSI automatically ties the prioritization, development and update frequency to the PHA or management of change.</p> <p>Implementation phase-in is appropriate for inclusion of new process safety information, such as corrosion information. Therefore, WSPA reserves the right to comment at a later date.</p>
	(3) A DMR must be revalidated at least once every five years.	Remove section.	WSPA believes that incorporating corrosion information as PSI would not only require updates as part of the PHA schedule, but

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
			would also require updates as part of management of change.
	(4) A DMR must be reviewed as part of a major change related to a process for which a damage mechanism exists, prior to approval of the change. If the change may introduce a damage mechanism, a DMR must be conducted, prior to approval of the change.	Remove section.	WSPA believes that incorporating corrosion information as PSI automatically integrates the review and update as part of management of change.  Additionally, WSPA has previously recommended inclusion in the MOC Section and believes that a review of damage mechanisms for major changes is appropriate.
	(5) Where a damage mechanism is identified as a contributing factor in an incident investigation, the employer must review the most recent DMRs that are relevant to the investigation. If a DMR has not been performed on the processes that are relevant to the investigation, the incident investigation team must recommend that a DMR be conducted and completed within a specified timeframe.	Remove section.	The incident investigation team charged with determining root cause(s) will review possible contributing factors including missing, inaccurate or outdated PSI, and make appropriate recommendations to prevent recurrence.
	(6) The DMR for a process unit must be available to the team performing a PHA for that process unit.	Remove section.	Incorporating corrosion information as PSI automatically makes this information available to the PHA team. It also makes the information available for other purposes (e.g., operating procedures, PSSR, mechanical integrity, MOC, and Trade Secrets).
	(7) The DMR must be performed by a team with expertise in engineering, equipment and pipe inspection,	Remove section.	The WAC rule does not specify how to generate other PSI. Consistent with other comments that WSPA has made, specifying

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	damage and failure mechanisms, and the operation of the process or processes under review. The team must include one member knowledgeable in the specific DMR methodology being used. The employer must provide for employee collaboration.		how the corrosion information must be developed is beyond the scope of a performance-based regulation and would be inconsistent with how these issues are addressed in other sections of the Discussion Draft.
	<p>(8) The DMR for each process must include:</p> <ul style="list-style-type: none"> <li>(a) Assessment of process diagrams;</li> <li>(b) Identification of all potential damage mechanisms;</li> <li>(c) Determination that the materials of construction are appropriate for their application and are resistant to potential damage mechanisms;</li> <li>(d) Methods to prevent or mitigate damage; and</li> <li>(e) Review of operating parameters under the following operating conditions: <ul style="list-style-type: none"> <li>(i) Within and outside of normal conditions,</li> <li>(ii) That could accelerate or otherwise worsen damage; and</li> <li>(iii) That could minimize or eliminate damage.</li> </ul> </li> </ul>	Remove section.	The WAC rule does not specify how to generate other PSI. Consistent with other comments that WSPA has made, specifying how the corrosion information must be developed is beyond the scope of a performance-based regulation and would be inconsistent with how these issues are addressed in other sections of the Discussion Draft.
	(9) For purposes of this section, damage mechanisms include, but	Remove section.	The WAC rule does not specify how to generate other PSI. Consistent with other

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>are not limited to:</p> <ul style="list-style-type: none"> <li>(a) Mechanical loading failures, such as ductile fracture, brittle fracture, mechanical fatigue and buckling;</li> <li>(b) Erosion, such as abrasive wear, adhesive wear and fretting;</li> <li>(c) Corrosion, such as uniform corrosion, localized corrosion and pitting;</li> <li>(d) Thermal-related failures, such as creep, metallurgical transformation and thermal fatigue;</li> <li>(e) Cracking, such as stress-corrosion cracking;</li> <li>(f) Embrittlement, such as high-temperature hydrogen attack; and</li> <li>(g) Microbiologically-Induced Corrosion.</li> </ul>		<p>comments that WSPA has made, specifying how the corrosion information must be developed is beyond the scope of a performance-based regulation and would be inconsistent with how these issues are addressed in other sections of the Discussion Draft.</p>
	<p>(10) DMRs must include an assessment of previous experience with the process, including the inspection history and all damage mechanism data; and a review of industry-wide experience with the process. Any applicable standards, codes, practices, and recognized and generally accepted good engineering practices (RAGAGEPs) must be used to identify and predict damage mechanism hazards.</p>	<p>Remove section.</p>	<p>The WAC rule does not specify how to generate other PSI. Consistent with other comments that WSPA has made, specifying how the corrosion information must be developed is beyond the scope of a performance-based regulation and would be inconsistent with how these issues are addressed in other sections of the Discussion Draft.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>(11) At the conclusion of the analysis, the team must prepare a written DMR report, which must include the following:</p> <ul style="list-style-type: none"> <li>(a) The process unit and damage mechanisms analyzed;</li> <li>(b) Results of all analyses conducted;</li> <li>(c) Recommendations for temporarily mitigating damage and ensuring worker safety;</li> <li>(d) Recommendations for preventing damage;</li> <li>(e) Damage mechanism flow diagrams, piping and instrumentation diagrams, or other technical data relevant to the report; and</li> <li>(f) Operating metrics, instrumentation and alarm, and other related equipment that could cause, worsen, or mitigate damage mechanisms.</li> </ul>	Remove section.	Corrosion information is an output from a review of damage mechanisms and is included in the WSPA's comments in the Process Safety Information (PSI) Section.
	<p>(12) The report must be provided to and, upon request, reviewed with employees whose work assignments are within the process unit described in the DMR.</p>	Remove section.	<p>WSPA believes that incorporating corrosion information as PSI automatically makes this information available to employees and their representatives as stated in the original WAC rule for Employee Participation:</p> <p>“(3) Employers shall provide to employees and their representatives access to process hazard analyses and to all other information required to be developed under this standard.”</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	(13) The employer must implement all recommendations in accordance with section xxx.	Remove section.	The WAC rule does not specify how to resolve other PSI. Consistent with other comments that WSPA has made, specifying how the corrosion information must be utilized is beyond the scope of a performance-based regulation and would be inconsistent with how these issues are addressed in other sections of the Discussion Draft.
	(14) DMR reports must be retained for the life of the process unit.	Remove section.	Incorporating corrosion information as PSI, as suggested by WSPA, requires it to be maintained as current and accurate.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<p><b>Hierarchy of Hazard Control Analysis</b></p>	<p>(1) The employer must conduct a hierarchy of hazard controls analysis (HCA) as a stand-alone analysis for all existing processes. For the HCA on existing processes, the team must review the process hazard analysis (PHA) while conducting the HCA. The HCA for existing processes must be performed in accordance with the following schedule, and may be performed in conjunction with the PHA schedule:</p> <p>(a) Fifty percent of existing processes within three years of the effective date of this section;</p> <p>(b) Remaining processes within five years of the effective date of this section;</p> <p>(c) All HCAs for existing processes must be updated and revalidated as standalone analyses at least every five years, and may be performed in conjunction with the PHA schedule.</p>	<p>Rename section to <b>Hierarchy of Control Principles</b> and replace with the following:</p> <p>(1) The employer must consider hierarchy of controls principles (HCP) during the design and review of a new covered process.</p> <p>(a) The employer must establish a system to address the project team’s findings and recommendations.</p>	<p>WSPA proposes to rename this Section to Hierarchy of Control Principles. No published consensus standard on HCA exists so this new regulatory requirement lacks the foundation that industry needs to know how to conduct an “analysis”. Keeping with the principle that performance-based standards are more successful than prescriptive standards, WSPA’s proposed change would allow industry to develop the best methodology and tools to address these new compliance requirements.</p> <p>WSPA agrees that the consideration of hierarchy of control “principles” can be a useful tool in risk reduction, but recommends an approach that encourages employers to incorporate the concepts of inherent process safety into their PSM processes.</p> <p>WSPA’s proposed language has inserted requirements to use hierarchy of controls principles into appropriate sections of the Discussion Draft.</p> <p>With regard to section (1)(c) of the Discussion Draft, hierarchy of control principles yields the greatest benefit during initial design. Based on feedback from WSPA member-companies in Contra Costa County, California where they have been implementing a similar requirement for almost 20 years (over 200 studies), applying hierarchy of controls principles to existing covered processes has yielded little if any benefit.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>(2) The employer must also conduct an HCA in a timely manner as follows:</p> <p>(a) For all recommendations made by a PHA team for each scenario that identifies the potential for a major incident;</p> <p>(b) For all recommendations that result from the investigation of a major incident;</p> <p>(c) As part of a MOC review, whenever a major change is proposed; and</p> <p>(d) During the design and review of new processes, new process units and new facilities, and their related process equipment.</p>	Remove section.	WSPA recommends incorporating the application of hierarchy of controls principles into the original WAC rule sections which develop recommendations for the prevention and mitigation of major incidents. section (2)(d) is addressed in section (1).
	<p>(3) HCAs must be documented, performed, updated and revalidated by a team with expertise in engineering and process operations. The team must include one member knowledgeable in the HCA methodology being used and at least one operating employee who currently works on the process and has expertise and experience specific to the process being evaluated. The employer must provide for employee collaboration. As necessary, the team must consult with individuals with</p>	Remove section.	This requirement is unnecessary based on WSPA's recommendations to include team training on principles of hierarchy of controls under the Training Section of the Discussion Draft.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	expertise in damage mechanisms, process chemistry and control systems.		
	<p>(4) The HCA team must:</p> <p>(a) Compile or develop all risk-relevant data for each process or recommendation;</p> <p>(b) Identify, characterize and prioritize risks posed by each process safety hazard;</p> <p>(c) Identify, analyze and document all inherent safety measures and safeguards for each process safety hazard in the following sequence and priority order, from most preferred to least preferred:</p> <p>(i) First order inherent safety measures;</p> <p>(ii) Second order inherent safety measures;</p> <p>(iii) Passive safeguards;</p> <p>(iv) Active safeguards; and</p> <p>(v) Procedural safeguards.</p> <p>For purposes of this section, first order inherent safety measures are considered to be most effective and procedural safeguards are considered to be least effective.</p> <p>(d) Identify, analyze, and document relevant, publicly available</p>	Remove section.	<p>Hierarchy of controls principles should be applied as part of established practices and the application of hierarchy of controls principles are considered as described in WSPA's suggested changes. Additional level of detail on hierarchy of controls in this section is not required.</p> <p>Keeping with the principle that performance-based standards are more successful than prescriptive standards, WSPA's proposed change would allow industry to develop the best methodology and tools to address these new compliance requirements.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>information on inherent safety measures and safeguards. This information must include inherent safety measures and safeguards that have been:</p> <ul style="list-style-type: none"> <li>(i) Achieved in practice by the petroleum refining industry and related industrial sectors; and</li> <li>(ii) Required or recommended for the petroleum refining industry and related industrial sectors, by a federal or state agency, or local agency, in a regulation or report.</li> </ul> <p>(e) For each process safety hazard identified, develop written recommendations in the following sequence and priority order:</p> <ul style="list-style-type: none"> <li>(i) Eliminate hazards to the greatest extent feasible using first order inherent safety measures;</li> <li>(ii) Reduce any remaining hazards to the greatest extent feasible using second order inherent safety measures;</li> <li>(iii) Effectively reduce remaining risks using passive safeguards;</li> <li>(iv) Effectively reduce remaining risks using active safeguards; and</li> <li>(v) Effectively reduce remaining risks using procedural safeguards.</li> </ul>		

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>(5) The HCA team must complete an HCA report within ninety calendar days of developing the recommendations. The report must include:</p> <p>(a) A description of the composition, experience and expertise of the team;</p> <p>(b) A description of the HCA methodology used by the team;</p> <p>(c) A description of each process safety hazard analyzed by the team;</p> <p>(d) A description of the inherent safety measures and safeguards analyzed by the team; and</p> <p>(e) The rationale for the inherent safety measures and safeguards recommended by the team for each process safety hazard; and the basis for using other than best practices to arrive at those recommendations.</p>	Remove section.	WSPA has proposed incorporating hierarchy of controls principles into other WAC rule sections (e.g., PHA) so hierarchy of controls principle findings and/or recommendations would be included in those reports.
	<p>(6) The employer must implement all recommendations.</p>	Remove section.	This section is addressed in the Implementation Section of the Discussion Draft.
	<p>(7) The employer must retain all HCA reports for the life of each process.</p>	Remove section.	WSPA has proposed incorporating hierarchy of controls principles into other WAC rule sections (e.g., PHA) so hierarchy of controls principle findings and/or recommendations will be included in those reports and retained in accordance with the requirements for those

## **WSPA Comment Matrix on the Discussion Draft**

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<b>Section</b>	<b>WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)</b>	<b>Suggested Changes</b>	<b>Basis for Change</b>
			sections.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<p><b>Process Safety Culture Assessments</b></p>	<p>(1) The employer must develop, implement and maintain an effective process safety culture assessment (PSCA) program.</p>	<p>Remove section.</p>	<p>While WSPA agrees in principle to the concept of conducting a Process Safety Culture Assessment, culture assessments are, by definition, subjective and based on perception which may/may not be reality. There is no widely-accepted methodology fully developed to conduct an effective culture assessment.</p> <p>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. It is too soon to include this concept in a regulation. As previously noted, 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.</p> <p>WSPA is concerned that this section of the Discussion Draft is, consequently, overly prescriptive. The science around safety culture has a long way to go to understand these issues. Academia is currently evaluating culture, its impact on process safety and methods for assessing process safety culture. Based on current experience with cultural assessments, WSPA believes that the benefits are uncertain.</p> <p>Given there is no consensus methodology and process safety culture is an emerging discipline, WSPA believes that it is too soon to regulate the process for assessing culture and</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
			recommends deleting this section.
	(2) The employer must conduct an effective PSCA and produce a written report within eighteen months following the effective date of this section, and at least every five years thereafter. If the employer has conducted and documented a PSCA up to eighteen months prior to the effective date of this section, and that PSCA includes the elements identified in this section, that PSCA may be used to satisfy the employer's obligation to complete an initial PSCA under this section.	Remove section.	Without a consensus methodology that generates recommendations linked to actions providing tangible results, conducting and reporting cultural assessments provides little value.  WSPA believes that it is too soon to regulate the process for assessing culture and recommends deleting this section.
	(3) The PSCA must be developed and implemented by a team that must include at least one member knowledgeable in refinery operations and at least one employee representative with processing and maintenance experience. The employer must provide for employee collaboration; and consult with at least one employee or another individual with expertise in assessing process safety culture in the petroleum refining industry.	Remove section.	Without a consensus methodology that generates recommendations linked to actions providing tangible results, conducting and reporting cultural assessments provides little value.  WSPA believes that it is too soon to regulate the assessment or specify team makeup and recommends deleting this section.
	(4) The PSCA must include an evaluation of the effectiveness of the following elements of process	Remove section.	Without a consensus methodology that generates recommendations linked to actions providing tangible results, conducting and

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	<p>safety leadership:</p> <p>(a) The employer's hazard reporting program;</p> <p>(b) The employer's response to reports of hazards;</p> <p>(c) The employer's procedures to ensure that incentive programs do not discourage reporting of hazards; and</p> <p>(d) The employer's procedures to ensure that process safety is prioritized during upset or emergency conditions.</p>		<p>reporting cultural assessments provides little value.</p> <p>WSPA believes that it is too soon to regulate the assessment or specify the content and recommends deleting this section.</p>
	<p>(5) The team must develop a written report within ninety calendar days of completion of the PSCA, which must include:</p> <p>(a) The method(s) used to conduct the PSCA;</p> <p>(b) The findings and conclusions of the PSCA; and</p> <p>(c) The team's recommendations to address the findings of the PSCA.</p>	Remove section.	<p>Without a consensus methodology that generates recommendations linked to actions providing tangible results, conducting and reporting cultural assessments provides little value.</p> <p>WSPA believes that it is too soon to regulate the assessment or specify the report requirements and recommends deleting this section.</p>
	<p>(6) The employer, in consultation with the PSCA team, must prioritize recommendations and implement corrective actions within twenty-four months of completion of the written report.</p>	Remove section.	<p>Without a consensus methodology that generates recommendations linked to actions providing tangible results, conducting and reporting cultural assessments provides little value.</p> <p>WSPA believes that it is too soon to regulate the assessment or specify corrective action requirements and recommends deleting this</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
			<p>section.</p> <p>Additionally, requirements for addressing recommendations should be included in the Implementation Section of the Discussion Draft.</p>
	<p>(7) The PSCA team must conduct a written interim assessment of the implementation and effectiveness of each PSCA corrective action within three years following the completion of a PSCA report. If a corrective action is found to be ineffective, the employer must implement changes necessary to ensure effectiveness in a timely manner not to exceed six months.</p>	Remove section.	<p>Without a consensus methodology that generates recommendations linked to actions providing tangible results, conducting and reporting cultural assessments provides little value.</p> <p>WSPA believes that it is too soon to regulate the assessment or specify interim assessments and recommends deleting this section.</p>
	<p>(8) The refinery manager or designee must serve as signatory to all PSCA reports, corrective action plans and Interim Assessments.</p>	Remove section.	<p>WSPA believes that it is too soon to regulate the assessment and recommends deleting this section.</p> <p>In addition, the regulation is applicable to the employer, not only the refinery manager. This level of detail is unnecessary.</p>
	<p>(9) PSCA reports, corrective action plans and Interim Assessments must be communicated and made available to employees, their representatives and participating contractors within sixty calendar days of completion.</p>	Remove section.	WSPA believes that it is too soon to regulate the assessment and recommends deleting this section.
	<p>(10) Participating contractors must provide PSCA reports, corrective</p>	Remove section.	WSPA believes that it is too soon to regulate the assessment and recommends deleting this

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	action plans and Interim Assessments to their employees and employee representatives within fourteen calendar days of receipt.		section.

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<b>Human Factors</b>	(1) The employer must develop, implement and maintain an effective written human factors program within eighteen months following the effective date of this section.	Remove section.	WSPA is in agreement that human factors are an important part of process safety. However, WSPA believes human factors should be integrated into other elements of the Discussion Draft, such as PHA, MOC and incident investigations, as appropriate, as seen in WSPA's proposed language in those sections.
	(2) The employer must include a written analysis of human factors that represents industry best practices 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.	Remove section.	WSPA proposes integrating human factors into PHA and MOC Sections as seen in WSPA's proposed language in those sections.  WSPA believes incident investigations teams are already required to consider all factors contributing to the incident; human factors is but one of many factors that are considered. Therefore, specific language regarding incident investigation is unnecessary.
	(3) The employer must assess human factors in existing operating and maintenance procedures and must revise these procedures	Remove section.	WSPA proposes integrating human factors into the Operating Procedures and Mechanical Integrity Sections, as seen in

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	accordingly. The employer must complete fifty percent of assessments and revisions within three years following the effective date of this section and one hundred percent within five years.		WSPA's proposed language in those sections.  WSPA believes implementation requirements should be addressed in the respective sections of the Discussion Draft.
	<p>(4) The human factors analysis must apply an effective method in evaluating the following:</p> <ul style="list-style-type: none"> <li>(a) Staffing levels;</li> <li>(b) Complexity of tasks;</li> <li>(c) Length of time needed to complete tasks;</li> <li>(d) Level of training, experience and expertise of employees;</li> <li>(e) Human-machine and human-system interface;</li> <li>(f) Physical challenges of the work environment in which the task is performed;</li> <li>(g) Employee fatigue and other effects of shiftwork and overtime;</li> <li>(h) Communication systems; and</li> <li>(i) Comprehension of operating and maintenance procedures.</li> </ul>	Remove section.	<p>WSPA proposes that key elements of section (4) should be incorporated into the definition of Human Factors.</p> <p>Keeping with the principle that performance-based standards are more successful than prescriptive standards, WSPA's proposed change would allow industry to develop the best methodology and tools to address these new compliance requirements. Specificity in this section of the Discussion Draft is not necessary.</p>
	<p>(5) The human factors analysis of process controls must include:</p> <ul style="list-style-type: none"> <li>(a) Error-proof mechanisms;</li> </ul>	Remove section.	Keeping with the principle that performance-based standards are more successful than prescriptive standards, WSPA's proposed change would allow industry to develop the

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	(b) Automatic alerts; and (c) Automatic system shutdowns.		best methodology and tools to address these new compliance requirements. Specificity in this section of the Discussion Draft is not necessary.
	(6) The employer must include an assessment of human factors in new and revised operating and maintenance procedures.	Remove section.	WSPA proposes integrating human factors into the Operating Procedures and Mechanical Integrity Sections.  Modifications to operating and maintenance procedures are covered under the MOC Section, into which WSPA has proposed integrating human factors.
	(7) The employer must train operating and maintenance employees in the written human factors program.	Remove section.	WSPA proposes integrating human factors as seen in WSPA's comments in the Training Section.
	(8) The employer must provide for employee collaboration in the human factors program.	Remove section.	This is already addressed in the Employee Participation Section and should be deleted here.
	(9) The employer must make available and provide on request, a copy of the written human factors program to employees and their representatives and to affected contractors, employees of contractors, and contractor employee representatives.	Remove section.	By integrating human factors into PHA, MOC, Training, Operating Procedures and Mechanical Integrity Sections, employees and their representatives already have access to this information. WSPA recommends deleting this section.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<b>MOOC</b>	(1) The employer must develop, implement and maintain effective written procedures to manage organizational changes.	Remove section.	WSPA agrees, in general, with the concept of managing organizational change in some instances. However, WSPA believes the intent and concepts can more appropriately be incorporated into the existing MOC Section.
	(2) The employer must designate a team to conduct a management of organizational change (MOOC) assessment prior to reducing staffing levels, reducing classification levels of employees changing shift duration, or increasing employee responsibilities at or above fifteen percent. The employer must provide for employee collaboration. The MOOC assessment is required for changes with a duration exceeding ninety calendar days affecting operations, engineering, maintenance, health and safety, or emergency response. This requirement must also apply to employers using employees of contractors in permanent positions.	Remove section.	Requirements of this section are adequately covered under the suggested inclusion of a definition for "Organizational Change" and WSPA' suggested changes to the MOC Section.
	(3) The MOOC assessment must be in writing and must include a description of the change being proposed, the make-up of the team responsible for assessing the proposed change, the factors evaluated by the team, and the	Remove section.	Requirements of this section are adequately covered under the suggested inclusion of a definition for "Organizational Change" and the suggested changes to the MOC Section.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	team's findings and recommendations.		
	(4) Prior to conducting the MOOC assessment, the employer must ensure that the job function descriptions are current and accurate for all positions potentially affected by the change.	Remove section.	Requirements of this section are adequately covered under the suggested inclusion of a definition for "Organizational Change" and the suggested changes to the MOC Section.
	(5) The refinery manager or designee must certify based on information and belief formed after reasonable inquiry that the MOOC assessment is accurate and that the proposed organizational change meets the requirements of this section.	Remove section.	Requirements of this section are adequately covered under the suggested inclusion of a definition for "Organizational Change" and the suggested changes to the MOC Section.  WSPA further notes 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.
	(6) All MOOC analyses must include an analysis of human factors.	Remove section.	Requirements of this section are adequately covered under the suggested inclusion of a definition for "Organizational Change" and the suggested changes to the MOC Section.
	(7) Prior to implementing a change, the employer must inform all employees potentially affected by the change.	Remove section.	Requirements of this section are adequately covered under the suggested inclusion of a definition for "Organizational Change" and the suggested changes to the MOC Section.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<b>Process Safety Management Program</b>	(1) The employer shall designate the refinery manager as the person with authority and responsibility for compliance with this section.	Remove section.	WSPA believes the premise behind this section is already incorporated throughout PSM Chapter and does not need to be duplicated in a standalone Section.  With regard to section (1) of the Discussion Draft, under the terms of the PSM Rule and the Washington OSHAct, the employer already has a responsibility to comply with these requirements making this section unnecessary.
	(2) The employer must develop, implement, and maintain an effective written process safety management (PSM) program, which must be reviewed and updated at least every three years.	Remove section.	WSPA believes the premise behind this section is already incorporated throughout the Discussion Draft or original WAC language and does not need to be duplicated in a standalone section.
	(3) The employer must develop and maintain an organizational chart that identifies management positions responsible for implementing the PSM Program elements required by this section.	Remove section.	WSPA believes the premise behind this Section is already incorporated throughout the Discussion Draft or original WAC language and does not need to be duplicated in a standalone section.
	(4) The employer must develop, implement and maintain an effective program to track, document, and assess process safety performance indicators against best practices, as well as leading and lagging factors.	Remove and relocate to Implementation Section with modifications.	WSPA believes performance indicators are an employers' responsibility to ensure the success of process safety management. In keeping with a performance-based standard, WSPA believes strongly that the details of performance indicators should not be set by

## **WSPA Comment Matrix on the Discussion Draft**

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<b>Section</b>	<b>WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)</b>	<b>Suggested Changes</b>	<b>Basis for Change</b>
			the regulator.

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
<b>Implementation</b>	<p>(1) The employer must develop, implement and maintain an effective written corrective action program to prioritize and implement the process safety performance indicators recommended as the result of a process hazard analysis (PHA), safeguard protection analysis (SPA), damage mechanism review (DMR), hierarchy of hazard controls analysis (HCA), incident investigation and compliance audit, pursuant to this section.</p>	<p>Replace section as follows:</p> <p>(1) The employer shall establish and implement a written plan to prioritize and address the findings and recommendations generated pursuant to the process hazard analysis (PHA), incident investigation, and compliance audit sections of this regulation.</p>	<p>General Comments on the Implementation Section:</p> <p>WSPA believes implementation requirements should only be stated once - either in the applicable section or in this section, but not in both. As a performance-based regulation, WSPA believes this is an opportunity for regulatory simplification.</p> <p>WSPA requests some options and consideration of practicability with regard to addressing action sections associated with PHAs, investigations and audits. 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).</p> <p>WSPA believes the changes suggested in the section more clearly describes the process for developing and implementing corrective actions from findings and recommendations. WSPA believes that a requirement for a written plan to address findings and recommendations is sufficient.</p> <p>WSPA is unclear of the intent of referencing “process safety performance indicators recommended” in the Discussion Draft and believes it is more appropriate for an implementation plan to address “recommendations”.</p>

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	(2) All findings and associated recommendations must be provided to the employer by the team performing the review or analysis.	Remove section.	Teams produce reports in appropriate sections of the Discussion Draft. WSPA believes these requirements are sufficient and therefore this section is redundant and should be removed.
	<p>(3) The employer may reject a team recommendation if the employer can demonstrate in writing that the recommendation meets one of the following criteria:</p> <p>(a) The analysis upon which the recommendation is based contains material factual errors;</p> <p>(b) The recommendation is not relevant to process safety; or</p> <p>(c) The recommendation is infeasible; however, a determination of infeasibility must not be based solely on cost.</p>	<p>Replace section with the following:</p> <p>(2) The employer may reject or change team findings and recommendations if the employer can document, in writing and based upon adequate evidence, one or more of the following conditions is true:</p> <p>a) The analysis upon which the recommendation is based contains material factual errors;</p> <p>b) The recommendation is not necessary to protect the employer’s own employees, or the employees of contractors, from the consequences of a potential catastrophic release;</p> <p>c) An alternative measure would provide a sufficient level of protection from the consequences of a potential catastrophic release; or</p> <p>d) The recommendation is not feasible.</p>	<p>WSPA recommends aligning with the Federal OSHA language (OSHA Instruction CPL 2-2.45A CH-1, <i>Compliance Guidelines and Enforcement Procedures</i>).</p> <p>WSPA notes that in prior comments on the definition of “feasibility” concerning the need to incorporate economic considerations applies here.</p> <p>WSPA’s 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.</p>
	(4) The employer may change a team recommendation if the employer can demonstrate in writing that an alternative measure would provide an equivalent or higher order of inherent safety. The employer may change a team recommendation for a safeguard if	Remove section.	WSPA notes that an alternate measure should provide a sufficient level of protection, first and foremost. This is more concisely addressed in WSPA’s proposed revision to section 3(c).

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	an alternative safeguard provides more effective protection.		
	(5) The employer must document all instances where any one of the criteria in <b>sections xxxx</b> is used for the purpose of rejecting or changing a team recommendation.	Remove section.	This requirement to document is redundant to WSPA's proposed revision to section 3.
	(6) Each recommendation that is changed or rejected by the employer must be communicated to onsite team members for comment and made available to offsite team members for comment. The employer must document all written comments received from team members for each changed or rejected recommendation. The employer must document a final decision for each recommendation and must communicate it to onsite team members and make it available to offsite team members.	Remove section.	WSPA believes that communication of actions, written schedule and resolution of actions to affected employees is important and adds value. WSPA believes this is adequately addressed in the relevant sections of WSPA's recommended changes to the Discussion Draft.
	(7) The employer must develop and document corrective actions to implement each accepted recommendation. The employer must assign a completion date for each corrective action and a person responsible for completing the corrective action.	Replace section with the following: (3) The employer must develop and document corrective actions to address accepted findings and recommendations. The employer must assign a completion date for each corrective action and a person responsible for completing the corrective action.	WSPA suggests minor changes to this section for clarity.
	(8) If the employer determines that	Remove section.	WSPA believes this section should be

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	a corrective action requires revalidation of any applicable process hazard analysis (PHA), safeguard protection analysis (SPA), hierarchy of hazard controls analysis (HCA) or damage mechanism review (DMR), these revalidations must be subject to the corrective action requirements of this section. The employer must promptly append all revalidated PHAs, SPAs, DMRs, and HCAs to the applicable report.		removed. The specificity of appending revalidations to the applicable report is not consistent with a performance-based regulation. WSPA is also unclear of the meaning of “applicable report”.
	(9) The employer must promptly complete all corrective actions and must comply with all completion dates required by this section. The employer must conduct an MOC for any proposed change to a completion date. The employer must make all completion dates available, upon request, to all affected operation and maintenance employees and employee representatives.	Replace section with the following:  (4) The employer must have a process to manage changes to corrective action completion dates.	WSPA agrees that employers need to have a process to manage changes to corrective action completion dates. WSPA’s proposed language is consistent with a performance-based regulation.
	(10) Except as required in sections xxx and xxx, each corrective action that does not require a process shutdown must be completed within thirty months after the completion of the analysis or review, unless the employer demonstrates in writing that it is	Remove section.	WSPA believes 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. Further, WSPA’s proposed section (5) of this Section addresses promptness of completion of corrective actions and consideration of interim

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	infeasible to do so.		measures.
	(11) Each corrective action from a compliance audit must be completed within eighteen months after completion of the audit, unless the employer demonstrates in writing that it is infeasible to do so. Each corrective action from an incident investigation must be completed within eighteen months after completion of the investigation or during an outage or turnaround, whichever comes first. If the employer deems the corrective action timeline to be infeasible, the employer must document the basis for that determination in writing that it is infeasible to do so.	Remove section.	WSPA believes 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. Further, WSPA's proposed section (5) of this Section addresses promptness of completion of corrective actions and consideration of interim measures.
	(12) Each corrective action requiring a process shutdown must be completed during the regularly scheduled turnaround of the applicable process, following completion of the PHA, SPA, DMR, HCA, MOC, Compliance Audit or Incident Investigation.	Remove section.	WSPA believes that 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

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
			corrective action can be fully completed.
	(13) Notwithstanding sections xxx and xxx, corrective actions addressing process safety hazards must be prioritized and promptly corrected, either through permanent corrections or temporary, interim safeguards sufficient to ensure employee safety and health, pending permanent corrections.	Replace section with the following:  (5) 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.	WSPA 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 (5).  WSPA notes that interim measure(s) may not be appropriate or required in all cases. For example, a corrective action requires a 2 <sup>nd</sup> check valve for backflow prevention. There may be no interim measure applicable in this instance.
	(14) Where a corrective action cannot be implemented within the time limits required in sections xxx the employer must ensure that interim safeguards are sufficient to ensure employee safety and health, pending permanent corrections. The employer must document the decision and rationale for any delay and must implement the corrective action as soon as possible. The documentation must include:  (a) The rationale for deferring the corrective action;  (b) All MOC requirements;  (c) A revised timeline describing when the corrective action will be	Remove section.	Consistent with prior comments, WSPA believes prompt implementation is specified in the relevant sections. WSPA does support that interim measure(s) must be considered as seen in WSPA's proposed sections (4) and (5).

## WSPA Comment Matrix on the Discussion Draft

Section	WAC Process Safety Requirements for Petroleum Refineries (Chap 296-XXX)	Suggested Changes	Basis for Change
	implemented; and  (d) An effective plan to make available the rationale and revised timeline to all affected employees and their representatives.		
	(15) The employer must track and document the completion of each corrective action and must append the documentation to the applicable PHA, SPA, DMR, HCA, Incident Investigation or compliance audit.	Remove section.	WSPA believes 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. In addition, WSPA believes that appending such documentation to the original reports adds little value while creating significant administrative burden.
<i>From Process Safety Management Program Section</i>	(4) The employer must develop, implement and maintain an effective program to track, document, and assess process safety performance indicators against best practices, as well as leading and lagging factors.	Replace section with the following:  (6) The employer must develop, implement and maintain a program to track, document, and assess process safety performance indicators.	WSPA recognizes the value and acknowledges that member companies already track process safety performance indicators (e.g., API RP 754). While WSPA believes including such a requirement is not necessary in a performance-based regulation, WSPA is willing to include section (6) per the suggested change. Note this section was moved from PSM Program Section as WSPA recommends removing that section.