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(a) Scope and Purpose	WAC 296-XX-XXX Purpose/Scope	WAC 296-XX-XXX Purpose and Scope	Commentary
This section contains requirements for petroleum refineries to reduce the risk of major incidents and eliminate or minimize process safety hazards to which employees may be exposed.	 (1) Purpose. 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. (2) Scope. This part applies to processes within petroleum refineries 	This part contains requirements for the prevention, elimination, and minimization of the consequences of releases of toxic, reactive, flammable, and explosive chemicals or materials in the petroleum refining industry.	1. The concept of prevention has been incorporated into this section.
(b) Application.	WAC 296-XX-XXX Application	WAC 296-XX-XXX Application	Commentary
This section shall apply to processes within petroleum refineries. For petroleum refineries, this regulation supersedes California Code of Regulations (CCR) Title 8, Section 5189.	NA	This Part A applies to processes within petroleum refineries. This regulation supersedes chapter 296-67 WAC Part B, with respect to petroleum refineries.	1. The PSM rule will be divided into two separate sections; with Part A devoted to the petroleum refining industry.
(c) Definitions	WAC 296-XX-XXX Definitions	WAC 296-XX-XXX Definitions	Commentary
NA	Acute toxicity. See definition of Acute Toxicity in WAC 296-901-140, Appendix A.	NA	1. This term has been left out of the second draft.
NA	 Affected employee. 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: (a) Maintenance personnel; (b) Operations personnel; (c) Contractors; 	 Affected employee. Anyone who controls, manages, or performs job tasks in or near a process. The term, "affected employee" includes, but is not limited to: (a) Maintenance employees and their representatives; (b) Operations employees and their representatives; 	1. Vendors have been eliminated in the second draft; laboratory personnel have been added since sampling tasks expose them to process hazards.

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	 (d) Staff members; and (e) Vendors providing process-related equipment, or chemicals. 	 (c) Contract employees and their representatives; and (d) Laboratory employees who perform sampling tasks within a process. 	
NA	Best Practice. A method or technique that has been generally accepted as superior to alternative methodologies	NA	 Best practices can be individually identified in the field.
NA	Boiling Point. See the definition of <i>Boiling Point</i> in WAC 296-901-14024, Appendix B.	NA	1. This term has been eliminated.
Change. Any alteration in process chemicals, technology, procedures, process equipment, facilities or organization that could affect a process. A change does not include replacement-in- kind.	Change. Any alteration in chemistry, technology, procedures, equipment, facilities or organization that could affect a process. A change does not include replacement-in-kind.	Change. Any alteration in process chemicals, technology, procedures, process equipment, facilities or organization that could affect a process. A change does not include replacement-in-kind.	1. Added "process"
NA	Collaboration. The action of working with someone to produce or create something.	NA	1. While the term has been left out of the definitions section in the second draft, it has been retained as a concept within the rule.
NA	Damage Mechanism Hazard Review (DMR). An assessment of potential damage mechanisms that can affect processing equipment, including corrosion, stress cracking, and other material degradation.	NA	1. This term has been removed since it is well described within its own section in the rule language.

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Facility. The plants, units, buildings, containers or equipment that contain(s) or include(s) a process.	NA	Facility. The plants, units, buildings, containers or equipment that contain(s) or include(s) a process	1. This term has been added
Feasible. Capable of being accomplished in a successful manner within a reasonable period of time, taking into account health, safety, economic, environmental, legal, social and technological factors.	Feasible. Capable of being accomplished in a successful manner within a reasonable period, taking into account health, safety, environmental, legal, social and technological factors.	Feasible. Capable of being accomplished in a successful manner within a reasonable period of time, taking into account health, safety, economic, environmental, legal, social, and technological factors. Economic factors must not be the sole basis in determining feasibility.	1. Economic factors have been incorporated into this term.

Hierarchy of Hazard Control. 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	Hierarchy of Hazard Controls Analysis (HCA). 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.	Hierarchy of Hazard Controls. 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.	1. The term in this second draft has been amended by removing "analysis." The definition has not been changed.
layers.	Highly horordous shamical (or material)	Hazardaua Chamical ar Matarial A substance	1 The word "highly" has been
liquid or flammable gas, or a toxic or reactive substance.	substance possessing toxic, reactive, flammable, or explosive properties.	possessing toxic, reactive, flammable, or explosive properties.	removed in the second draft
Human Factors. 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	Human Factors. 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	Human Factors. The design of machines, operations and work environments such that they closely match human capabilities, limitations and needs. Human factors include:(a) Environmental factors;	1. The term has been expanded to include design influences on human factors.

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as fatigue, that can affect job performance, process safety, and health and safety.	performance, process safety, and health and safety.	(b) Organizational and job factors;	
		(c) Human and individual characteristics such as	
		fatigue, that can affect job performance:	
		(d) Process safety;	
		(e) Health and safety, and	
		(f) Potentially adverse consequences created by	
		the design of equipment or systems within a	
		process	
	Integrity Operating Mindawa (IOMa) Cate of		1. This tawa has been left out
NA	integrity Operating windows (IOws). Sets of	NA	1. This term has been left out
	limits used to determine the different variables		of the second draft definitions
	that could affect the integrity and reliability of		section as it may introduce
	equipment within the process.		confusion. The concept of
			IOWs will be applied as
			necessary in the field.
Isolate. To cause equipment to be	Isolate. To cause equipment to be removed	Isolate. To completely protect workers against the	 Added "so that the
removed from service and completely	from service and completely protected against	release or introduction of hazardous material or	process can continue to
protected against the inadvertent release	the inadvertent release or introduction of	energy by such means as:	operate or remain
or introduction of material or energy by	material or energy by such means as blanking		pressurized while discrete
such means as blanking or blinding:	or blinding: misaligning or removing sections of	(a) Blanking, inerting, or blinding;	sections of the facility are
misalianing or removing sections of lines	lines, pipes, or ducts, implementing a double	(taken out of service for
nines or ducts: implementing a double	block and bleed system: or blocking or	(b) Misalianing or removing sections of lines	maintenance or inspection "
block and blood system; or blocking or	disconnecting all mechanical linkages	b) Misaligning of Terroving Sections of Intes,	
disconnecting of machanical links and	usconnecting an mechanical initages.	pipes, or addis,	
usconnecting all mechanical linkages.		(a) hanlamanting a daubla black sud blasd	
		(c) implementing a double block and bleed	
		system; or	

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		(d) Blocking or disconnecting all mechanical linkages so that the process can continue to operate or remain pressurized while discrete sections of the facility are taken out of service for maintenance or inspection	
Major Incident. An event within or affecting a process that causes a fire, explosion or release of a highly hazardous material and has the potential to result in death or serious physical harm.	Major Incident. An event within or affecting a process that causes a fire, explosion or release of a highly hazardous material and which has the potential to result in death or serious physical harm.	NA	1. Removed and term has been replaced with "process safety incident."
NA	Management of Organizational Change (MOOC). 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.	NA	1. MOOC has been removed since it is well described within the rule language itself.
NA	NA	Must. Must means mandatory.	1. "Must" has replaced "shall" in DOSH rule language.
NA	Outage. 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	Outage. Any occasion, including scheduled turnarounds, during which a process or part of a process is taken off stream. Outages also include the reduction of temperatures and/or pressures within equipment, and total or partial shutdowns of a process to: (a) Perform maintenance;	1. Turnarounds have been incorporated into this term, which encompasses any process outage.

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	advance of process shutdown and maintenance.	 (b) Overhaul or repair of a process and process equipment; or (c) Perform routine and non-routine maintenance, where such maintenance consists of regular, periodic maintenance on one or more pieces of equipment that may require shutdown of such equipment. 	
NA	NA	Preventive Maintenance. Preventive maintenance tasks are those activities that are carried out when process equipment is shut down.	1. Prevention is emphasized in the second draft.
Process. Petroleum refinery activities including use, storage, manufacturing, handling piping or on-site movement that	Process. Any activity involving a highly hazardous chemical, including:	Process. Any activity involving a hazardous chemical or material, including:	 Added "utilities" at (g) without the incident contribution qualifier
involve a highly hazardous material. Utilities and process equipment shall be	(a) Any use;	(a) Use;	
considered part of the process if in the event of a failure or malfunction they could	(b) Storage;	(b) Storage;	
potentially contribute to a major incident. For purposes of this definition, any group	(c) Manufacturing;	(c) Manufacturing;	
of vessels that are interconnected, or separate vessels that are located such that	(d) Handling;	(d) Handling;	
an incident in one vessel could affect any other vessel, shall be considered a single	(e) Piping;	(e) Piping;	
processes under partial or upplapped	(f) Release mitigation; or	(f) Release mitigation;	
shutdowns. This definition excludes		(g) Utilities;	

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ancillary administrative and support	(g) The on-site movement of such chemicals, or		
functions, including office buildings, labs,	combination of these activities.	(h) The on-site movement of such chemicals, or	
warehouses, maintenance shops, and		combination of these activities; or	
change rooms.	For purposes of this definition, any equipment		
	that is interconnected, including separate	(i) Any equipment that is interconnected, that	
	vessels, which are located such that a highly	could be involved in a potential release.	
	in a potential release must be considered a	This definition excludes ancillary administrative	
	single process This definition excludes	and support functions including office buildings	
	ancillary administrative and support functions.	labs. warehouses. maintenance shops. and	
	including office buildings, labs, warehouses,	change rooms.	
	maintenance shops, and change rooms		
Process Equipment. Equipment, including	Process equipment. Equipment that is part of	Process Equipment. Equipment, including but	1. Aligned with California rule
pressure vessels, rotating equipment,	a process.	not limited to pressure vessels, rotating	language
piping, instrumentation, process control, or		equipment, piping, instrumentation, process	
appurtenance, related to a process.		control, or appurtenances, related to a process.	
Process Safety Culture. A combination of	Process Safety Culture. A combination of	Process Safety Culture. A combination of group	1. "Environment" removed
group values and behaviors that reflects	group values and behaviors that reflects	values and behaviors that reflects whether there is	
whether there is a collective commitment	whether there is a collective commitment by	a collective commitment by organizational	
by leaders and individuals to emphasize	readers and individuals to emphasize process	readership to emphasize process safety over	
order to onsure protection of people and	protection of people and the environment	of omployoos	
the environment.		or employees.	
NA	Process Safety Culture Assessment	NA	1. "Assessment" has been
	(PSCA). A method to objectively define		removed as it is well described
	process safety values and beliefs.		within the rule language.

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NA	NA	Process Safety Incident. A near miss, unplanned release, process equipment failure, or other event within or affecting a process that could cause a fire, explosion, or release of a hazardous chemical or material.	1. This term has replaced "major incident" in the second draft. Encompasses near misses and non-injurious equipment failure in order to reflect field experience and emphasize prevention.
Process Safety Performance Indicators. Measurements of the refinery's activities and events that are used to evaluate the performance of process safety systems.	NA	Process Safety Performance Indicators. Measurements of the refinery's activities and events that are used to evaluate the performance of process safety systems.	1. Added in second draft for alignment with the California language.
NA	Promptly. With little or no delay.	NA	1. This term has been removed.
Qualified Operator. A person designated by the employer who, by fulfilling the requirements of the training program defined in subsection (g), has demonstrated the ability to safely perform all assigned duties.	Qualified Operator. A person designated by the employer who, by fulfilling the requirements of the employer's training program, has demonstrated the ability to safely perform all assigned duties.	Qualified. Any employee, who by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated their ability to solve, collaborate, or resolve problems relating to the subject matter, the work, or the project	1. Expanded the term to include more than just operators and added more descriptors
Reactive Substance. A self-reactive chemical, as defined in CCR Title 8, Section 5194, Appendix B.	Reactive Substance. See the definition of <i>Reactive substance</i> in WAC 296-901-14024, Appendix B.	NA	1. Removed this term
Recognized and Generally Accepted Good Engineering Practices (RAGAGEP). Engineering, operation or maintenance activities established in codes, standards, technical reports or recommended practices, and published by recognized	Recognized and Generally Accepted Good Engineering Practices (RAGAGEP). Engineering, operation or maintenance provisions established in codes, standards, technical reports or recommended practices, and published by recognized and generally	Recognized and Generally Accepted Good Engineering Practices (RAGAGEP). Engineering, operation or maintenance activities established in codes, standards, technical reports or recommended practices, and published by recognized and generally accepted organizations	1. Removed last phrase since internal policies and practices are not meant to be RAGAGEP sources.

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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), 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	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), 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.	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), 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.	
Replacement-in-kind. A replacement that satisfies the design specifications.	Replacement in kind. A replacement which satisfies the design specification.	Replacement-in-kind. A replacement that satisfies the design specifications of the item it is replacing.	1. This term has been corrected; the last phrase had been left out previously.
NA	Safeguard Protection Analysis (SPA). 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 needed.	NA	1. Left out since it's well- described in rule language
Safety Instrumented Systems. Systems designed to achieve or maintain safe operation of a process in response to an unsafe process condition.	Safety Instrumented System. Systems designed to achieve or maintain safe operation of a process in response to an unsafe process condition	Safety System. Engineered systems designed to achieve or maintain safe operation of a process in response to an unsafe process condition.	1. Safety systems are not exclusive to instrumentation; broadened the term (to include suppression systems, for example)

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			1
Temporary Pipe or Equipment Repair. A	Temporary Pipe or Equipment Repair. A	Temporary Pipe or Equipment Repair. A	1. Used the term "process
temporary repair of an active or potential	temporary repair of an active or potential leak	temporary repair of an active or potential leak from	safety incident" in place of
leak from process piping or equipment.	from process piping or equipment. This	process piping or equipment. This definition	"major incident"
This definition includes active or potential	definition includes active or potential leaks in	includes active or potential leaks in utility piping or	
leaks in utility piping or utility equipment	utility piping or utility equipment that affect a	utility equipment, and flange or valve packing	
that affect a process, and that could result	process, and flange or valve packing leaks that	leaks that could result in a process safety incident	
in a major incident.	could result in a major incident.		
Turnaround. A planned total or partial	Turnaround. A planned total or partial	NA	1. Turnarounds are now
shutdown of a petroleum refinery process	shutdown of a petroleum refinery process unit		incorporated into "outages."
unit or plant to perform maintenance,	or plant to perform maintenance, overhaul or		
overhaul or repair of a process and	repair of a process and process equipment,		
process equipment, and to inspect, test	and to inspect, test and replace process		
and replace process materials and	materials and equipment. Turnaround does not		
equipment. Turnaround does not include	include outages, or unplanned shutdowns that		
unplanned shutdowns that occur due to	occur due to emergencies or other unexpected		
emergencies or other unexpected	maintenance matters in a process unit or plant.		
maintenance matters in a process unit or	Turnaround also does not include routine		
plant. Turnaround also does not include	maintenance, where routine maintenance		
routine maintenance, where routine	consists of regular, periodic maintenance on		
maintenance consists of regular, periodic	one or more pieces of equipment at a refinery		
maintenance on one or more pieces of	process unit or plant that may require shutdown		
equipment at a refinery process unit or	of such equipment.		
plant that may require shutdown of such			
equipment.			

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Utility. A system that provides energy or other process-related services to enable the safe operation of a refinery process. This definition also includes water, steam and asphyxiants, such as nitrogen and carbon disvide, when used as part of a	Utility. 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 asphyxiants, such as nitrogen and carbon dioxide, when used as part of a process.	Utility. 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 asphyxiants, such as nitrogen and carbon dioxide, when used as part of a process.	1. The term has been broadened to include all utilities.
process.	part of a process.	and hazard mitigation equipment	
(v) Process Safety	WAC 296-67-XXXX Process safety	WAC 296-67-XXXX Process safety	Commentary
Management Program.	management program.	management program.	
	This section has been moved to the front of	f the rule. No conceptual changes	
(q) Employee Participation	WAC 296-67-XXXX	WAC 296-67-XXXX	Commentary
	Employee Collaboration	Employee Collaboration	
(1) In consultation with employees and employee representatives, the employer shall develop, implement and maintain a	(1) In consultation with employees and employee representatives, the employer must develop, implement, and maintain an effective	(1) In consultation with employees and employee representatives, the employer must develop, implement, and maintain a written plan to	 The term "change management" at (1)(a)(iv) indicates MOCs and MOOCs.
elements, pursuant to this section. The	collaboration in all PSM elements. The plan must include the following:	all PSM elements. The plan must include at least the following:	2. At (4)(a)(i) added "death"
plan shall include provisions that provide for the following:	(a) Collaboration by affected operating and maintenance employees and employee	(a) Effective collaboration by affected operating and maintenance employees, throughout all phases, in performing:	 At (4)(a)(ii) added "qualified" before "operator."
(A) Effective participation by affected operating and maintenance employees	representatives, throughout all phases, in performing process hazard analyses (PHAs), damage mechanism reviews (DMPs)	(i) Process hazard analyses (PHAs);	4. At (4)(b): Language provides for feedback
all phases, in performing PHAs, DMRs, HCAs, MOCs, Management of	hierarchy of hazard controls analyses (HCAs), management of change (MOCs), management	(ii) Damage mechanism reviews (DMRs);	hazard that may already be addressed.
Organizational Change assessments	of organizational change (MOOCs), process	(iii) Hierarchy of hazard controls analyses (HCAs);	

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(MOOCs), Process Safety Culture Assessments (PSCAs), Incident	safety culture assessment (PSCAs), incident investigations, safeguard protection analyses	(iv) Change management;	
Investigations, SPAs and PSSRs:	(SPAs), and process safety startup reviews		
(B) Effective participation by affected	(PSSRs);	(v) Process safety culture assessment (PSCAs),	
operating and maintenance employees			
and employee representatives, throughout	(b) Collaboration by affected operating and	(vi) Incident investigations;	
all phases, in the development, training,	maintenance employees and employee		
implementation and maintenance of the	representatives, throughout all phases, in the	(vii) Safeguard protection analyses (SPAs); and	
PSM elements required by this section;	development, training, implementation and		
and,	maintenance of the PSM elements required by	(viii) Process safety startup reviews (PSSRs).	
	this section; and,		
(C) Access by employees and employee		(b) Effective collaboration by affected employees	
representatives to all documents or	(c) Access by employees and employee	and employee representatives, throughout all	
information developed or collected by the	representatives to all documents or information	phases, in the development, training,	
employer pursuant to this section,	developed or collected by the employer	implementation, and maintenance of the PSM	
including information that might be subject	pursuant to this section, including information	elements required by this part; and,	
to protection as a trade secret.	that might be subject to protection as a trade		
	secret.	(c) Access by employees and employee	
(2) Authorized collective bargaining agents		representatives to all documents or information	
may select (A) employee(s) to participate	(2) Authorized collective bargaining agents	developed or collected by the employer, including	
in overall PSM program development and	may select employee(s) to participate in overall	information that might be subject to protection as	
Implementation planning and (B)	PSIVI program development and	a trade secret.	
employee(s) to participate in PSM teams	Implementation planning; and employee(s) to		
and other activities, pursuant to this	participate in PSIVI teams and other activities.	(2) Authorized collective bargaining agents may	
section.	(2) Where employees are not represented by	select employee(s) to engage in overall PSM	
(2) Where employees are not represented	(3) where employees are not represented by	plogram development and implementation	
(3) where employees are not represented	an authorized collective bargaining agent, the	planning, and employee(s) to participate in PSM	
by an authorized collective bargaining	employer must establish effective procedures	teams and other activities, pursuant to this part.	
ageni, the employer shall establish			

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effective procedures in consultation with	in consultation with employees for the selection	(3) Where employees are not represented by an	
employees for the selection of employee	of employee representatives.	authorized collective bargaining agent, the	
representatives.		employer must establish effective procedures in	
	(4) Within ninety calendar days of the effective	consultation with affected employee(s) for the	
(4) Nothing in this subsection shall	date of this section, the employer must, in	selection of employee representatives.	
preclude the employer from requiring an	consultation with employee and employee		
employee or employee representative to	representatives, develop, implement, and	(4) Within ninety calendar days of the effective	
whom information is made available under	maintain the following:	date of this part, the employer, in consultation with	
subsection (q)(1)(C) to enter into a		employees and employee representatives, must	
confidentiality agreement prohibiting him	(a) Effective Stop Work procedures that	develop, implement, and maintain the following:	
or her from disclosing such information, as	ensure:		
set forth in CCR Title 8, Section 5194(i).		(a) Effective Stop Work procedures that ensure:	
	(i) The authority of all employees, including		
(5) Within ninety (90) calendar days of the	employees of contractors, to refuse to perform	(i) The authority of all affected employees,	
effective date of this section, the employer	a task where doing so could reasonably result	including employees of contractors, to refuse or	
in consultation with employee and	in death or serious physical harm;	delay the performance of a task that they believe	
employee representatives, shall develop		could reasonably result in serious physical harm	
and implement the following:	(ii) The authority of all employees, including	or death;	
	employees of contractors, to recommend to the		
(A) Effective Stop Work procedures that	operator in charge of a unit that an operation or	(ii) The authority of all affected employees,	
ensure:	process be partially or completely shut-down,	including employees of contractors, to	
	based on a process safety hazard;	recommend the qualified operator in charge of a	
1. The authority of all employees, including		unit that an operation or process be partially or	
employees of contractors, to refuse to	(iii) The authority of the qualified operator in	completely shut-down, based on a process safety	
perform a task where doing so could	charge of a unit to partially or completely shut-	hazard;	
reasonably result in death or serious	down an operation or process, based on a		
physical harm;	process safety hazard; and (iv) Measures to	(iii) The authority of the qualified operator in	
	ensure that employees who exercise stop work	charge of a unit to partially or completely shut	

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2. The authority of all employees, including	authority as described in this part are protected	down an operation or process, based on a process	
employees of contractors, to recommend	from intimidation, retaliation, or discrimination.	safety hazard; and	
to the operator in charge of a unit that an			
operation or process be partially or	(b) Effective procedures to ensure the right of	(iv) Employees who exercise stop work authority	
completely shut-down, based on a process	all employees, including employees of	as described in this part are protected from	
safety hazard; and,	contractors, to anonymously report hazards.	intimidation, retaliation, or discrimination.	
	The employer must respond in writing within		
3. The authority of the qualified operator in	thirty calendar days to written hazard reports	(b) Effective procedures to ensure the right of all	
charge of a unit to partially or completely	submitted by employees, employee	employees, including employees of contractors, to	
shut-down an operation or process, based	representatives, contractors, employees of	anonymously report hazards. The employer must	
on a process safety hazard.	contractors and contractor employee	respond in writing within thirty calendar days to	
	representatives. The employer must prioritize	written hazard reports submitted by employees,	
(B) Effective procedures to ensure the	and promptly respond to and correct hazards	employee representatives, contractors,	
right of all employees, including	that present the potential for death or serious	employees of contractors and contractor	
employees of contractors, to anonymously	physical harm.	employee representatives. The employer must	
report hazards. The employer shall		prioritize and promptly respond to and correct	
respond in writing within thirty (30)	(5) The employer must document the following:	hazards that present the potential for death and	
calendar days to written hazard reports		serious physical harm. If the employer determines	
submitted by employees, employee	(a) Recommendations to partially or completely	that an anonymous report does not constitute a	
representatives, contractors, employees of	shut down an operation or process;	hazard, or that the hazard is being corrected by	
contractors and contractor employee		some other means, a written response must be	
representatives. The employer shall	(b) Partial or complete shut down of an	prepared and made available that provides this	
prioritize and promptly respond to and	operation or process; and	information to affected employees.	
correct hazards that present the potential			
for death or serious physical harm.	(c) A written log documenting instances when	(5) The employer must document the following:	
	stop work authority was activated, and the		
(6) The employer shall document the	action taken by the employer to address the	(a) Recommendations to partially or completely	
following:	circumstances under which that authority was	shut down an operation or process, pursuant to	
-	exercised.	subsection XXXX;	

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 (A) Recommendations to partially or completely shut-down an operation or process, pursuant to subsection (q)(5)(A)(2); 		(b) The partial or complete shutdown of an operation or process, pursuant to subsection XXXX ; and	
(B) Partial or complete shut-down of an operation or process, pursuant to subsection $(q)(5)(A)(3)$; and,		(c) Written reports of hazards, and the employer's response, pursuant to subsection XXXX .	
(C) Written reports of hazards, and the employer's response, pursuant to subsection (q)(5)(B).			
(d) Process Safety Information.	WAC 296-XX-XXX Process Safety Information.	WAC 296-67-XXXX Process safety information.	Commentary
(1) The employer shall develop and			

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(2) The PSI shall include information	(1) Information pertaining to the hazards of the	operating or maintaining a process to identify and	
pertaining to the following:	highly hazardous chemicals used in, present in, or produced by the process. This information	understand the hazards posed by the process.	
(A) The hazards of highly hazardous	must consist of at least the following:	(2) The PSI must include accurate, verified, and	
materials used in or produced by the process;	(a) Toxicity information; including acute and chronic health hazards;	complete information pertaining to the following:	
		(a) The hazards of hazardous materials used in or	
(B) The technology of the process;	(b) Permissible exposure limits in accordance with WAC 296-841-20025;	produced by the process;	
(C) Process equipment used in the process; and,	(c) Physical data	(b) The technology of the process;	
	(d) Reactivity data;	(c) Process equipment used in the process; and,	
(D) Results of previous DMRs.			
	(e) Process-specific damage mechanisms;	(d) Results of previous DMRs.	
(3) The employer shall provide for			
employee participation, pursuant to subsection (a) The PSI shall be made	(f) Temperature, thermal and chemical stability	(3) The employer must provide for employee	
available to all employees and relevant		must be made available to all employees and	
PSI shall be made available to affected	(g) Hazardous effects of inadvertent mixing of	relevant PSI must be made available to affected	
employees of contractors. Information	different materials that could foreseeably occur.	employees of contractors. Information pertaining	
pertaining to the hazards of the process		to the hazards of the process must be effectively	
shall be effectively communicated to all	Note: Safety Data Sheets meeting the	communicated to all affected employees.	
affected employees.	requirements of WAC 296- 901- 14014 may be		
(1) Information partaining to bezordo of	used to comply with this requirement to the	(4) Information pertaining to the hazardous	
(4) Information pertaining to nazards of highly bazardous materials used in	this section	produced by the process must include at least the	
present in or produced by the process shall		following:	
include at least the following:	(2) Information pertaining to the technology of	iono milgi	
5	the process.		

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(A) Toxicity information, including acute	(a) Information concerning the technology of	(a) Toxicity information; including acute and	
	the process must include at least the following:		
(B) California Permissible Exposure Limits		(b) Permissible exposure limits in accordance with	
(PELs), as listed in CCR Title 8, Section	(i) Piping and instrumentation diagram or simplified process/block flow diagram:	WAC 296-841-20025;	
5155,	Simplified process/block now diagram,	(c) Physical data:	
(C) Physical data;	(ii) Process chemistry;		
		(d) Corrosion data	
(D) Corrosion data;	(iii) Maximum intended inventory;		
(E) Thormal and chomical stability data:	(iv) Safe upper and lower limits for such items	(e) Temperature, thermal and chemical stability	
	as temperatures, pressures, flows, or		
(F) Reactivity data; and,	compositions; and	(f) Reactivity data;	
(G) Hazardous effects of incompatible	(v) An evaluation of the consequences of	(g) Hazardous effects of incompatible mixtures	
mixtures that could foreseeably occur.	deviations, including those affecting the safety	that could foreseeably occur; and	
NOTE TO (d)(4)(A) - (G): Safety Data	and health of employees.		
Sheets meeting the requirements of CCR	(b) Where the original technical information no	(h) Process-specific damage mechanisms.	
comply with this requirement to the extent	(b) where the original technical information ho	(5) Information pertaining to the technology of the	
that they meet the information provisions.	developed in conjunction with the process	process must include at least the following:	
	hazard analysis in sufficient detail to support		
(5) Information pertaining to the	the analysis.	(a) A block flow diagram or simplified process flow	
technology of the process shall include at	(2) Information portaining to the equipment in	diagram;	
	the process.	(b) Process chemistry:	
(A) A block flow diagram or simplified		(2)	
process flow diagram;		(c) Maximum intended inventory;	

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(a) Information partaining to the aquipment in	
the process must include:	(d) Safe upper and lower limits for process
(i) Materials of construction;	flows, levels, and compositions; and
(ii) Piping and instrument diagrams (P&IDs);	(e) The consequences of deviations, including chemical mixing and reactions that may affect the
(iii) Electrical classification; supply, and	safety and health of employees.
	(6) Information pertaining to the equipment in the
(iv) Relief system design and design basis;	process must include at least the following:
(v) Ventilation system design;	(a) Materials of construction;
(vi) Design codes and standards employed;	(b) Piping and instrument diagrams (P&IDs);
(vii) Safety systems (e.g., interlocks, detection, or suppression systems);	(c) Electrical classification;
	(d) Relief system design and design basis;
(viii) The consequences of deviations, including	(a) Mantilation avetam design.
the safety and health of employees; and	
	(f) Design codes and standards employed,
(ix) Results of prior damage mechanism	including design conditions and operating limits;
	(g) Material and energy balances for processes
(b) The employer must document that	built after September 1, 1992;
equipment complies with recognized and generally accepted good engineering practices	
	 (a) Information pertaining to the equipment in the process must include: (i) Materials of construction; (ii) Piping and instrument diagrams (P&IDs); (iii) Electrical classification; supply, and distribution systems; (iv) Relief system design and design basis; (v) Ventilation system design; (vi) Design codes and standards employed; (vii) Safety systems (e.g., interlocks, detection, or suppression systems); (viii) The consequences of deviations, including chemical mixing and reactions that may affect the safety and health of employees; and (ix) Results of prior damage mechanism reviews (DMRs). (b) The employer must document that equipment complies with recognized and generally accepted good engineering practices

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(F) Design codes and standards employed, including design conditions and operating limits:	or with more protective internal practices that ensure safe operation.	(h) Safety systems, such as interlocks and detection and suppression systems;	
-p - · · · · · · · · · · · · · · · · · ·	(c) For existing equipment designed and	(i) Electrical supply and distribution systems: and	
(G) Material and energy balances for	constructed in accordance with codes		
processes built after Sentember 1 1002	standards or practices that are no longer in	(i) Results of prior damage mechanism reviews	
	dependences the employer must determine and	(DMRs)	
(H) Safety systems, such as interlocks and	document that the equipment is designed		
detection and suppression systems: and	maintained inspected tested and operating in	(7) The employer must document that process	
detection and suppression systems, and,	a safe manner	equipment complies with recognized and	
(I) Electrical supply and distribution		dependent complies with recognized and	
systems	(4) The employer must provide for employee	(RAGAGEP) where $RAGAGEP$ has been	
systems.	collaboration. The process safety information	established for that process equipment or with	
(7) The employer shall document that	(PSI) must be made available to all employees	more protective internal practices that ensure safe	
process equipment complies with	and relevant process safety information must	operation	
RAGAGEP where RAGAGEP has been	be made available to affected employees of		
established for that process equipment or	contractors Information pertaining to the	(8) If the employer installs new process equipment	
with more protective internal practices that	bazards of the process must be effectively	for which no RAGAGEP exists the employer must	
ensure safe operation	communicated to all affected employees	determine and document that the equipment is	
		designed maintained inspected tested and	
(8) If the employer installs new process		operating in a safe manner	
equipment for which no RAGAGEP exists.			
the employer shall document that this		(9) If existing process equipment was designed	
equipment is designed, constructed.		and constructed in accordance with codes.	
installed. maintained. inspected, tested		standards or practices that are no longer in	
and operating in a safe manner.		general use, the employer must determine and	
		document that the process equipment is	
(9) If existing process equipment was		designed, installed, maintained, inspected, tested	
designed and constructed in accordance			

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with codes, standards or practices that are no longer in general use, the employer shall document that the process		and operating in a safe manner for its intended purpose.	
maintained inspected tested and		requirements of WAC 296-901-14014 may be	
operating in a safe manner for its intended		used to comply with this requirement to the extent	
purpose.		they contain the information required by this	
		section.	
(e) Process Hazard Analysis.	WAC 296-XX-XXX Process	WAC 296-67-XXXX Hazard analyses.	Commentary
	Hazard Analysis.		
(1) The employer shall perform and	(1) The employer must perform and document	(1) Process hazard analysis.	1. Hierarchy of hazard
Analysis (PHA) appropriate to the	an initial process hazard analysis (PHA) on	(a) The employer must perform and decument an	incorporated into this section:
complexity of each process in order to	process bazard analysis must be appropriate to	effective Process Hazard Analysis (PHA)	which is now titled "Hazard
identify, evaluate and control hazards	the complexity of the process and must identify.	appropriate to the complexity of each process, in	Analyses."
associated with each process. All initial	evaluate, and control the hazards associated	order to identify, evaluate and control hazards	· · · · · · · · · · · · · · · · · · ·
PHAs for processes not previously	with the process. Employers must determine	associated with each process. All initial PHAs for	
covered by CCR Title 8, Section 5189 shall	and document the priority order for conducting	processes not covered by chapter 296-67WAC,	
be completed within three years of the	process hazard analyses based on a rationale	must be completed within three years of the	
effective date of this Section, in	which includes, but is not limited to, such	effective date of this chapter. PHAs performed in	
performed in accordance with the	hazards number of potentially affected	67-017 must satisfy the initial PHA requirements	
requirements of CCR Title 8. Section 5189	employees, age of the process, and operating	of this chapter. All modes of operations pursuant	
shall satisfy the initial PHA requirements of	history of the process.	to subsection XXXX must be covered by the PHA	
this Section. All modes of operations			
pursuant to subsection (f) shall be covered	(2) The employer must use process hazard	(b) The employer must determine and document	
by the PHA.	analysis methodologies that are appropriate to	the priority order for conducting PHAs based on	
	the size, complexity, toxicity, and catastrophic	potentially affected employees, the age of the	

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(2) The employer shall determine and	potential of the process. These methodologies	process and the process operating history. The	
accument the priority order for conducting	may include:	employer must use at least one of the following	
PHAs based on the extent of process		methodologies:	
hazards, the number of potentially affected	(a) What-If;		
employees, the age of the process and the		(i) What-If;	
process operating history. The employer	(b) Checklist;		
shall use at least one of the following		(ii) Checklist;	
methodologies:	(c) What-If/Checklist;		
		(iii) What-If/Checklist;	
(A) What-If;	(d) Hazard and Operability Study (HAZOP);		
		(iv) Hazard and Operability Study (HAZOP);	
(B) Checklist;	(e) Failure Mode and Effects Analysis (FMEA);		
		(v) Failure Mode and Effects Analysis (FMEA);	
(C) What-If/Checklist;	(f) Fault Tree Analysis; or		
		(vi) Fault Tree Analysis; or	
(D) Hazard and Operability Study	(g) An appropriate equivalent methodology.		
(HAZOP);		(vii) Other PHA methods recognized by	
	(3) The process hazard analysis must	engineering organizations or governmental	
(E) Failure Mode and Effects Analysis;	address:	agencies.	
(F) Fault-Tree Analysis; or,	(a) The hazards of the process;	(c) The PHA must address:	
	(b) The findings of incident investigations		
(G) Other PHA methods recognized by	relevant to the process;	(i) The hazards of the process;	
engineering organizations or			
governmental agencies.	(c) Engineering and administrative controls	(ii) Previous publicly documented major incidents	
	associated with the process;	in the petroleum refinery and petrochemical	
(3) The PHA shall address:		industry sectors that are relevant to the process;	
	(d) Potential consequences of failure of		
(A) The hazards of the process;	engineering and administrative controls;		

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		(iii) DMR reports that are applicable to the process
(B) Previous publicly documented major	(e) Facility siting, including the placement of	units, pursuant to section XXXX :
incidents in the petroleum refinery and	processes, process equipment, buildings, and	
petrochemical industry sectors that are	employee occupancies and work stations, in	(iv) HCA reports that are applicable to the process
relevant to the process:	order to effectively protect employees from	units, pursuant to section XXXX
	process safety hazards:	······, P ·······
(C) DMR reports that are applicable to the		(v) Potential consequences of failures of process
process units, pursuant to subsection (k):	(f) Human factors:	equipment:
······ (·),	()	
(D) HCA reports that are applicable to the	(g) Previous publicly documented major	(vi) Facility siting, including the placement of
process units, pursuant to subsection (<i>I</i>);	incidents in the petroleum refinery and	processes, equipment, buildings, employee
	petrochemical industry sectors that are relevant	occupancies and work stations, in order to
(E) Potential consequences of failures of	to the process;	effectively protect employees from process safety
process equipment;		hazards;
	(h) Damage mechanism review (DMR) reports	
(F) Facility siting, including the placement	that are applicable to process equipment;	(vii) Human Factors, pursuant to section XXXX ;
of processes, equipment, buildings,		
employee occupancies and work stations,	(i) Hierarchy of hazard controls analysis (HCA)	(viii) A qualitative evaluation of the types, severity
in order to effectively protect employees	reports that are applicable to the process units;	and likelihood of possible incidents that could
from process safety hazards;		result from a failure of the process or of process
	(J) The potential effects of external events,	equipment;
(G) Human Factors, pursuant to	including seismic events, if applicable;	(iv) The notential effects of external events
subsection (s);	(1) An evaluation of the types according and	(ix) The potential effects of external events,
(H) A qualitative evaluation of the types	(k) An evaluation of the types, sevently and likelihood of possible incidents that could result	(x) The findings of incident investigations relevant
(II) A qualitative evaluation of the types,	from a failure of the process or of process	(x) The infulings of incluent investigations relevant
incidents that could result from a failure of	aquinment: and	
the process or of process equipment:		
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(I) The potential effects of external events, including seismic events, if applicable;	(I) A review of applicable management of change (MOC) documents completed since the	(xi) A review of applicable Management of Change (MOCs) documents completed since the last PHA,	
	most recent PHA.	pursuant to section XXXX; and	
(J) The findings of incident investigations			
relevant to the process, pursuant to	(4) The process hazard analysis must be	(xii) Engineering and administrative controls	
subsection (o); and,	performed by a team with expertise in	associated with the process.	
	engineering and process operations, and the		
(k) A review of applicable Management of	team must include at least one employee who	(d) The PHA must be performed by a team with	
Change (MOCs) documents completed	has experience and knowledge specific to the	expertise in engineering and process operations,	
since the last PHA, pursuant to subsection	process being evaluated. Also, one member of	and must include at least one refinery operating	
(n).	the team must be knowledgeable in the specific	employee who currently works in, or provides	
	process hazard analysis methodology being	training in the unit, and who has experience and	
(4) The PHA shall be performed by a team	used. The employer must provide for employee	knowledge specific to the process being	
with expertise in engineering and process	collaboration. As appropriate, the team must	evaluated. The team must also include one	
operations, and shall include at least one	demose mechanisme process chemistry	member with expertise in the specific PHA	
works in or provides training in the unit	carriage mechanisms, process chemistry,	nethodology being used. The employer must	
and who has experience and knowledge	systems, or other such relevant skills	section XXXX As necessary the team must	
specific to the process being evaluated		consult with individuals with expertise in demage	
The team shall also include one member	(5) For each scenario in the PHA that identifies	mechanisms process chemistry Safequard	
with expertise in the specific PHA	the potential for a major incident, the employer	Protection Analysis control systems	
methodology being used. The employer	must perform:		
shall provide for employee participation		(e) The team must document its findings and	
pursuant to subsection (g). As necessary,	(a) An effective written safeguard protection	recommendations in a PHA report, which must be	
the team shall consult with individuals with	analysis (SPA) to determine the effectiveness	available in the respective work area for review by	
expertise in damage mechanisms,	of existing individual safeguards;	any affected employees working in that area.	
process chemistry, SPA and control			
systems.		(f) The PHA report must include:	

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(5) For each scenario in the PHA that	(b) The combined effectiveness of all existing	(i) The methodologies, analyses and factors	
identifies the potential for a major incident,	safeguards for each failure scenario in the	considered by the PHA team;	
the employer shall perform an effective	PHA;		
written SPA to determine the effectiveness		(ii) The findings of the PHA team; and	
of existing individual safeguards, the	(c) The individual and combined effectiveness		
combined effectiveness of all existing	of safeguards recommended in the PHA;	(iii) The PHA team's recommendations, including	
safeguards for each failure scenario in the		additional safeguards to address any deficiencies	
PHA, the individual and combined	(d) The individual and combined effectiveness	identified by the SPA.	
effectiveness of safeguards recommended	of additional or alternative safeguards that		
in the PHA, and the individual and	may be needed; and	(g) The employer must make the report available	
combined effectiveness of additional or		to affected employees whose work assignments	
alternative safeguards that may be	(e) The employer must complete all SPAs	are in the petroleum refinery and who may be	
needed.	within six months of completing the PHA.	affected by the findings and recommendations.	
	(6) The employer must conduct an HCA in a		
(A) All independent protection layers for	timely manner, for all recommendations made	(h) At least every five years, the written PHA must	
each failure scenario shall be independent	by a PHA team for each scenario that identifies	be updated and revalidated in accordance with the	
of each other and independent of initiating	the potential for a major incident. The employer	requirements of this section to ensure that the	
causes.	must attach the HCA report to the PHA report.	PHA is consistent with the current process.	
(B) The SPA shall utilize a quantitative or	(7) All independent protection layers for each	(2) Safeguard protection analysis	
semi-quantitative method, such as Layer	failure scenario must be independent of each		
of Protection Analysis, or an equally	other and independent of initiating causes.	(a) For each scenario in the PHA that identifies the	
effective method to identify the most		potential for a process safety incident, the	
protective safeguards. The risk reduction	(8) The SPA must utilize a method, such as	employer must perform:	
obtainable by each safeguard shall be	layer of protection analysis (LOPA), or an		
based on site-specific failure rate data, or	equally effective method to identify the most	(i) An effective written safeguard protection	
in the absence of such data, industry	protective safeguards. The risk reduction	analysis (SPA) to determine the effectiveness of	
failure rate data for each device, system or	obtainable by each safeguard must be based	existing individual safeguards;	
human factor.	on site-specific failure rate data, or in the		

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	absence of such data, industry failure rate data	(ii) The combined effectiveness of all existing	
(C) The SPA shall be conducted by at least	for each device, system or human factor.	safeguards for each failure scenario in the PHA;	
one individual with expertise in the specific			
SPA methodology being used. The SPA	(9) The SPA must include at least one	(iii) The individual and combined effectiveness of	
may be performed as part of the PHA or as	individual with expertise in the specific SPA	safeguards recommended in the PHA; and	
a stand-alone analysis. The employer shall	methodology being used. The SPA may be		
provide for employee participation in the	performed as part of the PHA or as a stand-	(iv) The individual and combined effectiveness of	
performance of all SPAs, pursuant to	alone analysis. The employer must provide for	additional or alternative safeguards that may be	
subsection (q).	employee collaboration in the performance of	needed.	
	all SPAs.		
(D) The SPA shall document the likelihood		(b) All independent protection layers for each	
and severity of all potential initiating	(10) The SPA must document the likelihood	failure scenario must be independent of each	
events, including equipment failures,	and severity of all potential initiating events,	other and independent of initiating causes.	
human errors, loss of flow control, loss of	including equipment failures, human factors,		
pressure control, loss of temperature	loss of flow control, loss of pressure control,	(c) The SPA must utilize a quantitative or semi-	
control, loss of level control, excess	loss of temperature control, loss of level control,	quantitative method, such as layer of protection	
reaction, and other conditions that may	excess reaction, and other conditions that may	analysis (LOPA), or an equally effective method to	
lead to a loss of containment. The SPA	lead to a loss of containment. The SPA must	identify the most protective safeguards. The risk	
shall document the risk reduction achieved	document the risk reduction achieved by each	reduction attainable by each safeguard must be	
by each safeguard for all potential initiating	safeguard for all potential initiating events.	based on site-specific failure rate data, or in the	
events.		absence of such data, industry failure rate data for	
	(11) The employer must complete all SPAs	each device, system, or human factor.	
(E) The employer shall complete all SPAs	within six months of the revalidation or change		
within six (6) months of completion of the	of any PHA based on its next evaluation date.	(d) The SPA must be conducted by at least one	
PHA.		qualified individual with expertise in the specific	
	(12) The team must document and promptly	SPA methodology being used. The SPA may be	
(6) The employer shall conduct an HCA in	address its findings and recommendations in a	performed as part of the PHA or as a stand-alone	
a timely manner, pursuant to subsection	PHA report, which must be available in the	analysis.	
(I), for all recommendations made by a			

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PHA team for each scenario that identifies	respective work area for review by any person	(e) The SPA must document the likelihood and	
the potential for a major incident. The	working in that area.	severity of all potential initiating events, including	
employer shall append the HCA report to		equipment failures, human factors, loss of flow	
the PHA report.	(13) The PHA report must include:	control, loss of pressure control, loss of	
·		temperature control, loss of level control, excess	
(7) The team shall document its findings	(a) The methodologies analyses and factors	reaction, and other conditions that may lead to a	
and recommendations in a PHA report	considered by the PHA team:	loss of containment. The SPA must document the	
which shall be available in the respective		risk reduction achieved by each safeguard for all	
which shall be available in the respective	(b) The findings of the DUA team; and	not on tiglinitiating events	
work area for review by any person	(b) The infullings of the PHA team, and	potential initiating events.	
working in that area.			
	(c) The PHA team's recommendations,	(f) The employer must complete all SPAs within	
(8) The PHA report shall include:	including additional safeguards to address any	six months of the completion or revalidation of the	
	deficiencies identified by the SPA.	PHA.	
(A) The methodologies, analyses and			
factors considered by the PHA team;	(14) The employer must make the report	(3) Hierarchy of hazard controls analysis.	
	available to operating, maintenance and other		
(B) The findings of the PHA team; and,	persons whose work assignments are in the	(a) The employer must conduct a hierarchy of	
	petroleum refinery and who may be affected by	hazard controls analysis (HCA) as a stand-alone	
(C) The PHA team's recommendations.	the findings and recommendations.	analysis for all existing processes. For the HCA on	
including additional safeguards to address	<u> </u>	existing processes, the team must review the PHA	
any deficiencies identified by the SPA	(15) At least every five years after the	while conducting the HCA. The HCA for existing	
	completion of the initial process bazard	processes must be performed in accordance with	
(9) The employer shall make the report	analysis after a major incident or when	the following schedule, and may be performed in	
(3) The employer shall make the report	changes to the process warrant a more timely	conjunction with the DHA schedule:	
available to operating, maintenance and	rovision, the process warrant a more unley		
other persons whose work assignments	revision, the process hazard analysis must be	(i) No loss they 50 nement of evicting processes	
are in the petroleum refinery and who may	updated and revaildated by a team meeting the	(i) No less than 50 percent of existing processes	
be affected by the findings and	requirements of this section, to ensure that the	within three years of the effective date of this	
recommendations.	process hazard analysis is consistent with the	chapter;	
	current process.		

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(10) Except as required in subsection		(ii) Remaining processes within five years of the	
(e)(6), the employer shall implement all	(16) Employers must retain the initial, updated	effective date of this chapter;	
PHA recommendations in accordance with	or revalidation of process hazard analyses and		
subsection (x).	SPAs for each process covered by this part, as	(iii) All HCAs for existing processes must be	
	well as the documented resolution of	updated and revalidated as standalone analyses	
(11) At least once every five (5) years, the	recommendations described in this section for	at least every five years.	
written PHA shall be updated and	the life of the process.		
revalidated in accordance with the		(b) The employer must also conduct an HCA in a	
requirements of this subsection to ensure		timely manner as follows:	
that the PHA is consistent with the current		" _ .	
process.		(i) For all recommendations made by a PHA team	
		for each scenario that identifies the potential for a	
(12) The employer shall retain all PHAs		process safety incident, pursuant to section	
and SPAs for the life of the process,		XXXX ;	
including updates and revaildations. This		(ii) For all recommendations that recult from the	
information shall include the documented		(II) For all recommendations that result from the	
developed purevent to this subsection		investigation of a process safety incident,	
developed pursuant to this subsection.			
		(iii) As part of managing changes whenever a	
		major change is proposed pursuant to section	
		XXXX and	
		(iv) During the design and review of new	
		processes, new process units and new facilities.	
		and their related process equipment.	
		and the second	
		(c) HCAs must be documented, performed.	
		updated and revalidated by a team with expertise	

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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 operates the process and has expertise and experience specific to the process being evaluated. As necessary, the team must consult with individuals with expertise in damage mechanisms, process chemistry, and control systems.
(d) The HCA team must:
(i) Compile or develop all risk-relevant data for each process or recommendation;
(ii) Identify, characterize, and prioritize risks posed by each process safety hazard;
(iii) 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:
(A) First order inherent safety measures;
(B) Second order inherent safety measures;
(C) Passive safeguards;

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	(D) Active safeguards; and(E) Procedural safeguards.	
	(iv) 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.	
	(v) Identify, analyze, and document relevant, publicly available information on inherent safety measures and safeguards. This information must include inherent safety measures and safeguards that have been:	
	(A) Achieved in practice by the petroleum refining industry and related industrial sectors; and	
	(B) 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.	
	(vi) For each process safety hazard identified, develop written recommendations in the following sequence and priority order:	

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(A) Eliminate hazards to the greatest extent feasible using first order inherent safety measures;
(B) Reduce any remaining hazards to the greatest extent feasible using second order inherent safety measures;
(C) Effectively reduce remaining risks using passive safeguards
(D) Effectively reduce remaining risks using active safeguards; and,
(E) Effectively reduce remaining risks using procedural safeguards.
(e) The HCA team must complete an HCA report within ninety calendar days of developing the recommendations. The employer must append the HCA report to the PHA report. The report must include:
(i) A description of the composition, experience and expertise of the team;
(ii) A description of the HCA methodology used by the team;

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		(iii) A description of each process safety hazard	
		analyzed by the team,	
		(iv) A description of the inherent safety measures	
		and safeguards recommended by the team for	
		each process safety hazard.	
		(4) The employer must implement all	
		67-XXXX Corrective action program.	
		(5) The employer must provide for employee	
		collaboration in conducting process hazard	
		(SPAs), and hierarchy of hazard controls analyses	
		(HCAs).	
		(6) Employers must retain the initial, updated and	
		revalidation of process hazard analyses (PHAs),	
		hierarchy of hazard controls analyses (HCAs) 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.	
(I) Hierarchy of Hazard Controls	WAC 296-XX-XXX Hierarchy of Hazard	WAC 296-XX-XXX Hierarchy of Hazard	Commentary
Analysis.	Controls Analysis	Controls Analysis	

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Merged into "Hazard Analyses."			
(f) Operating Procedures	WAC 296-XX-XXX Operating Procedures.	WAC 296-XX-XXX Operating Procedures.	Commentary
(1) The employer shall develop and implement effective written Operating Procedures The Operating Procedures	(1) The employer must develop, implement, and maintain effective written operating	(1) The employer must develop, implement, and maintain effective written operating procedures.	 Added "Emergency operations" at (1)(a)(iv)
shall provide clear instructions for safely conducting activities involved in each	safely conducting activities involved in each covered process consistent with the process	instructions for safely conducting activities involved in each process. The operating	 Added "Non-routine work" at (1)(a)viii)
process. The Operating Procedures shall be consistent with the PSI and, at a minimum shall address the following:	safety information and must address at least the following:	procedures must be consistent with the PSI and, at a minimum, must address the following:	3. "Human factors" added at
(A) Steps for each operating phase or	(a) Steps for each operating phase:	(a) Steps for each operating phase or mode of operation:	
mode of operation.	(i) Start up;	(i) Start up;	
1. Start-up;	(ii) Normal operations;	(ii) Normal operations;	
3. Temporary operations as needed:	(iv) Emergency shutdown including the	(iii) Temporary operations as needed;	
4. Emergency shutdown, including the	conditions under which emergency shutdown is required; provisions granting the authority of	(iv) Emergency operations;	
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	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;	(v) 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	

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order to ensure that emergency shutdown	(v) Normal shutdown; and	ensure that emergency shutdown is executed in a	
is executed in a safe and timely manner;		safe and timely manner;	
5. Normal shutdown; and,	(vi) Start-up following a turnaround, or planned		
	or unplanned shutdown, or after an emergency	(vi) Normal shutdown;	
6. Start-up following a turnaround. or	shutdown.		
planned or unplanned shutdown, or after		(vii) Start-up following a turnaround, or planned or	
an emergency shutdown.	(b) Operating limits:	unplanned shutdown, or after an emergency	
	(i) Consequences of deviation: and	shutdown: and	
(B) Operating limits.	(),,	- · · · · · · · · · · · · · · · · · · ·	
	(ii) Steps required to correct or avoid deviation.	(viji) Non-routine work.	
1. Consequences of deviations: and.	()		
	(c) Safety and health considerations:	(b) Operating limits:	
2. Steps required to avoid or correct			
deviations.	(i) Properties of, and hazards presented by, the	(i) Consequences of deviations; and	
	chemicals used in the process;		
(C) Safety and health considerations.		(ii) Steps to correct or avoid deviations.	
	(ii) Precautions necessary to prevent exposure,		
1. Properties of, and hazards presented	including engineering controls, administrative	(c) Safety and health considerations:	
by, the chemicals used in the process;	controls, active and passive controls and		
	personal protective equipment;	(i) Properties of, and hazards presented by, the	
2. Precautions necessary to prevent		chemicals used in the process;	
exposure, including passive, active and	(iii) Protective measures to be taken if physical	•	
procedural safeguards, and personal	contact or airborne exposure occurs;	(ii) Precautions necessary to prevent exposure,	
protective equipment;	•	including passive, active and procedural	
•••	(iv) Verification of the composition and	safeguards, personal protective equipment,	
3. Protective measures to be taken if	properties of raw materials and control of	engineering controls, and administrative controls;	
physical contact or inhalation exposure	hazardous chemical inventory levels;		
occurs;		(iii) Protective measures to be taken if physical	
	(v) Any special or specific hazards;	contact or airborne exposure occurs;	

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4. Safety procedures for opening process equipment;	(vi) The minimum number of personnel required to safely execute the procedure; and	(iv) Safety procedures for opening process equipment;	
5. Verification of the composition and			
properties of raw materials and control of	(vii) The safety procedures for opening process	(v) Verification of the composition and properties	
hazardous chemical inventory levels: and.	equipment.	of raw materials and control of hazardous	
······································		chemical inventory levels:	
6. Any special or unique hazards.	(d) Safety systems and their functions.		
		(vi) Any special or unique hazards;	
(D) Safety systems and their functions.	(2) Operating procedures must be readily		
	accessible to employees who work in or	(vii) The minimum number of employees required	
(2) A copy of the Operating Procedures	maintain a process, and to any other person	to safely execute the procedure; and	
shall be readily accessible to employees	who works in or near the process area.		
who work in or near the process area and		(viii) Human factors.	
to any other person who works in or near	(3) The operating procedures must be reviewed		
the process area or who maintains a	and updated as often as necessary to ensure	(d) Safety systems and their functions.	
process.	that they reflect safe, current operating		
	practices, including changes that result from	(2) Written operating procedures must be readily	
(3) The Operating Procedures shall be	changes in process chemicals, technology, and	accessible to all affected employees, including the	
reviewed and updated as often as	equipment, and changes to facilities and	employees of contractors, and any other affected	
necessary to ensure that they reflect	personnel.	employee who works in or near the process.	
current, safe operating practices. The			
Operating Procedures shall include any	(4) The employer must develop, implement,	(3) Written operating procedures must be	
changes that result from alterations in	and maintain effective safe work practices to	reviewed and updated as often as necessary to	
process chemicals, technology, personnel,	prevent or control hazards during operations	ensure that they reflect current, safe operating	
process equipment or other changes to the	applicable to both host employer employees	practices. The operating procedures must include	
facility. Changes to Operating Procedures	and contractor employees. Sate work practices	any changes that result from alterations in process	
shall be managed in accordance with the	must be established for specific activities that	chemicals, technology, personnel, process	
requirements of subsection (n).	Include:	equipment or other changes to the facility.	

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(4) The employer shall certify annually that Operating Procedures are current and	(a) Lockout/tagout;	Changes to operating procedures must be managed in accordance with the requirements of WAC 296-67-XXXX .	
accurate.	(b) Confined space entry;		
	(-)	(4) The employer must annually certify and	
(5) The Operating Procedures shall	(c) Opening process equipment or piping:	document that written operating procedures are	
include emergency procedures for each	(c) opening process equipment of piping,	current and accurate	
processes including any reapones to the	(d) Control over entrenes into a facility by		
process, including any response to the	(d) Control over entrance into a facility by	(C) The events of develop implement and	
over-pressurizing or overneating of	maintenance, contractor, laboratory, or other	(5) The employer must develop, implement, and	
equipment or piping, and the handling of	support personnei;	maintain effective written safe work practices	
leaks, spills, releases and discharges of		applicable to all affected employees. Safe work	
highly hazardous materials. These	(e) Response to the over-pressurizing or	practices must be established for specific activities	
procedures shall provide that only qualified	overheating of equipment or piping;	that include, but are not limited to:	
operators may initiate these operations,			
and that prior to allowing employees in the	(f) The handling of leaks, spills, releases, or	(a) Opening process equipment or piping;	
vicinity of a leak, release or discharge, the	discharges of highly hazardous materials.		
employer shall, at a minimum, do one of			
the following:	(i) Define the conditions for handling leaks.	(b) Tasks requiring lock-out/tag-out procedures:	
	spills or discharges that provide a level of		
(A) Define conditions for handling leaks	protection that is functionally equivalent to or	(c) Confined space entry:	
(A) Define conditions for handling leaks,	afor then chutting down or isolating the	(c) Commed Space entry,	
spills of discharges that provide a level of		(d) Llandling, controlling and stanning locks, anillo	
protection that is functionally equivalent to,	process;	(d) Handling, controlling and stopping leaks, spills,	
or safer than, shutting down or isolating the		releases and discharges;	
process;	(ii) Isolate any vessel, piping, and equipment		
	where a leak, spill, or discharge is occurring;	(e) Control over entry into hazardous work areas	
(B) Isolate any vessel, piping and		by maintenance, contractor, laboratory or other	
equipment where a leak, spill or discharge	(iii) Shutdown and depressurize all process	support personnel.	
is occurring; or,	operations where a leak, release, or discharge		
	is occurring.		

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(C) Shutdown and depressurize all process operations where a leak, release or discharge is occurring.	(g) Any other hazard that requires the documentation of safe work practices.	(6) The written operating procedures must include emergency procedures for each process, including any responses to the over-pressurizing or overheating of equipment or piping, and the	
(6) The employer shall develop, implement and maintain safe work practices to prevent or control hazards during specific activities, such as: opening process equipment or piping; tasks requiring lockout/ tag-out procedures; confined space entry; handling, controlling and stopping leaks, spills, releases and discharges; and control over entry into hazardous work areas by maintenance, contractor, laboratory or other support personnel. Safe work practices shall apply to employees and employees of contractors.	(5) The employer must annually certify and document that these operating procedures are current and accurate.	 b) overheating of equipment of piping, and the handling of leaks, spills, releases and discharges of hazardous materials. These written operating procedures must provide that only qualified operators may initiate these operations, and that prior to allowing employees in the vicinity of a leak, release or discharge, the employer must, at a minimum, do one of the following: (a) 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; (b) Isolate any vessel, piping, and equipment where a leak, spill, or discharge is occurring; or (c) Shutdown and depressurize all process operations where a leak, release, or discharge is occurring. (8) The employer must provide for employee collaboration, pursuant to WAC 296-67-XXXX 	Commonitory
(g) Training.	WAC 296-XX-XXX Training.	WAC 296-67-XXXX Training.	Commentary
(1) Initial training.	(1) Initial training. Each employee, including	(1) Initial training.	1. Used term "affected
-	contract employees presently involved in or	-	employee" at (1)(a)
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(A) Each employee involved in the	maintaining a process, and each employee	(a) Each affected employee involved in the	
operation of a process, and each	before being involved in operating or	operation of a process, and each employee prior	
employee prior to working in a newly	maintaining a newly assigned process, must be	to working in a newly assigned process, including	
assigned process, shall be trained in an	trained in an overview of the process and in the	employees of contractors, must be trained in an	
overview of the process and in the	operating procedures. The training must	overview of the process and in the operating	
Operating Procedures, pursuant to	include emphasis on specific safety and health	procedures, pursuant to WAC 296-67-XXXX.	
subsection (f).	hazards, emergency operations, and safe work		
	practices applicable to the employee's job	(b) Each affected employee involved in the	
(B) Each employee involved in the	tasks.	maintenance of a process, and each maintenance	
maintenance of a process, and each		employee prior to working in a newly assigned	
maintenance employee prior to working in	(2) Refresher and supplemental training.	process, including employees of contractors, must	
a newly assigned process, shall be trained	Effective refresher and supplemental training	be trained in an overview of the process and in the	
in an overview of the process and in the	must be provided at least every three years,	relevant hazards and safe work practices,	
relevant hazards and safe work practices,	and more often if necessary, to each	pursuant to section WAC 296-67-XXXX.	
pursuant to subsection (f)(6).	maintenance and operations employee		
	involved in operating a process to ensure that	(c) The training must include the following material	
(C) The training shall include the following	the employee understands and adheres to the	applicable to the employee's job tasks: safety and	
material applicable to the employee's job	current maintenance and operating procedures	health hazards; procedures, including emergency	
tasks: safety and health hazards;	of the process. The employer, in consultation	operations and shut-down; and safe work	
procedures, including emergency	with the employees involved in operating the	practices.	
operations and shut-down; and safe work	process, must determine the appropriate		
practices.	frequency of refresher training.	(2) Refresher and supplemental training.	
(2) Refresher and supplemental training.	(3) Training certification. The employer must	(a) At least once every three years, and more	
	ensure that each employee involved in	often if necessary, the employer must provide	
(A) At least once every three years, and	operating and maintaining a process has	effective refresher and supplemental training to	
more often if necessary, the employer	received, understood and successfully	each operating employee to ensure that each	
shall provide effective refresher and	completed training. The employer, after the	employee understands and adheres to current	
supplemental training to each operating	initial or refresher training, must prepare a	operating procedures.	

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employee to ensure that each employee	certification record, which contains the identity		
understands and adheres to current	of the employee, the date of training, the	(b) At least once every three years, and more	
operating procedures.	signature(s) of the person(s) who administered	often if necessary, the employer must provide	
	the training, and the means used to verify that	effective refresher and supplemental training to	
(B) At least once every three years, and	the employee understood the training.	each maintenance employee to ensure that each	
more often if necessary, the employer		employee understands and adheres to current	
shall provide effective refresher and	(4) The employer must develop, implement,	maintenance procedures.	
supplemental training to each	and maintain an effective written program that		
maintenance employee to ensure that	includes the following:	(c) The employer, in consultation with the	
each employee understands and adheres		employees involved in operating or maintaining a	
to current maintenance procedures.	(a) The requirements that an employee must	process, must determine the appropriate	
	meet in order to be designated as qualified;	frequency and content of refresher training.	
(C) The employer, in consultation with the	and,		
employees involved in operating or		(3) Training certification.	
maintaining a process, shall determine the	(b) Employee testing procedures to verify		
appropriate frequency and content of	understanding and to ensure competency in job	(a) The employer must ensure that each affected	
refresher training.	skill levels and work practices that protect	employee involved in operating or maintaining a	
	employee safety and health.	process has received, understood and	
(3) Training certification.		successfully completed training as specified by	
(A) The employer shall ensure that each	(5) The employer must develop, implement,	this section.	
employee involved in the operation or	and maintain an effective training program to		
maintenance of a process has received,	ensure that all affected employees are aware of	(b) The employer, after the initial or refresher	
understood and successfully completed	and understand all PSM elements described in	training, must prepare a certification record	
training as specified by this subsection.	this section. Employees and employee	containing the identity of the employee, the date(s)	
	representatives participating in a team must be	of training, the means used to verify that the	
(B) The employer, after the initial or	trained in the PSM elements relevant to that	employee understood the training, and the	
refresher training, shall prepare a	team.	signature(s) of the person(s) who administered	
certification record containing the identity		the training.	
of the employee, the date(s) of training, the			

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means used to verify that the employee	(6) The employer must provide for employee	(4) The employer must develop, implement, and	
understood the training, and the signature(s) of the person(s) administering the training.	collaboration in developing and implementing the training program.	maintain an effective written program that includes the following:	
(4) The employer shall develop and		(a) The requirements that an employee must meet in order to be designated as gualified; and	
implement an effective written program			
that includes the following:		(b) Employee testing procedures to verify understanding and to ensure competency in job	
(A) The requirements that an employee		skill levels and work practices that protect	
must meet in order to be designated as qualified; and.		employee safety and health.	
		(5) Within twenty-four months of the effective date	
(B) Employee testing procedures to verify understanding and to ensure competency		of this chapter, the employer must develop, implement, and maintain an effective written	
in job skill levels and work practices that		training program to ensure that all affected	
protect employee safety and health.		elements described in this chapter. Employees	
(5) Within twenty-four (24) months of the		and employee representatives participating in a	
shall develop and implement an effective		team pursuant to this chapter must be trained in the PSM elements relevant to that team.	
training program to ensure that all affected			
employees are aware of and understand all PSM elements described in this section.		(6) The employer must provide for employee collaboration in developing, implementing, and	
Employees and employee representatives		maintaining the training program, pursuant to	
participating in a team pursuant to this section shall be trained in the PSM		WAC 296-67-XXXX.	
elements relevant to that team.			
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(6) The employer shall provide for			
amployee participation in developing and			
imployee participation in developing and			
implementing the training program,			
pursuant to subsection (q).			-
(h) Contractors	WAC 296-XX-XXX Contractors	WAC 296-XX-XXX Contractors	Commentary
(1) This section applies to contractors	(1) Application. This section applies to	(1) Application. This section applies to contractors	1. Used "refinery employer"
performing maintenance or repair, supply	contractors performing maintenance, repair,	performing maintenance, repair, supply services,	for clarification
services, turnaround, major renovation or	turnaround, major renovation, or specialty work	turnaround, major renovation, or specialty work on	
specialty work on or adjacent to a process.	on or adjacent to a covered process. It does not	or adjacent to a covered process. It does not apply	
It does not apply to contractors providing	apply to contractors providing incidental	to contractors providing incidental services that do	
incidental services that do not affect	services, which do not influence process	not affect process safety, such as janitorial work,	
process safety, such as janitorial work,	safety, such as janitorial work, food and drink	food and drink services, laundry, delivery or other	
food and drink services, laundry, delivery	services, laundry, delivery, or other supply	supply services.	
or other supply services.	services.		
		(2) Refinery employer responsibilities.	
(2) Refinery employer responsibilities.	(2) Employer responsibilities.		
		(a) When selecting a contractor, the refinery	
(A) When selecting a contractor, the	(a) The employer, when selecting a contractor,	employer must obtain and evaluate information	
refinery employer shall obtain and	must obtain and evaluate information regarding	regarding the contract employer's safety	
evaluate information regarding the	the contract employer's safety performance,	performance, including programs used to prevent	
contractor's safety performance, including	including programs used to prevent employee	employee injuries and illnesses, and must require	
programs used to prevent employee	injuries and illnesses, and must require that its	that its contractors and any subcontractors use a	
injuries and illnesses, and shall require	contractors and any subcontractors use a	skilled and trained workforce.	
that its contractors and any subcontractors	skilled and trained workforce.		
use a skilled and trained workforce		(b) The refinery employer must inform the	
pursuant to Health and Safety Code	(b) The employer must inform contract	contractor, and must ensure that the contractor	
Section 25536.7.	employers of the known potential fire,	has informed each of its employees of the	
	explosion, or toxic release hazards related to	following:	
	the contractor's work and the process. The		

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(B) The refinery employer shall inform the contractor, and shall ensure that the	employer must ensure that the contractor has informed each of its employees of the following:	(i) Potential process safety hazards associated with the contractor's work;	
contractor has informed each of its			
employees, of the following:	(i) Potential process safety hazards associated with the contractor's work;	(ii) Applicable refinery safety rules;	
1. Potential process safety hazards		(iii) Applicable provisions of this chapter, including	
associated with the contractor's work;	(ii) Applicable refinery safety rules; and	the requirements of WAC 296-67-XXXX	
		Emergency planning and response, and WAC	
2. Applicable refinery safety rules; and,	(iii) Applicable provisions of this section,	296-24-567 Employee emergency plans and fire	
	including the provisions of WAC 296-XX-XXX,	prevention plans.	
3. Applicable provisions of this section,	Emergency Planning and Response Plan.		
including the provisions of the Emergency		(c) The refinery employer must develop,	
Action Plan, pursuant to subsection (p).	(c) The employer must develop, implement and	implement, and maintain effective written	
	maintain effective written procedures and safe	procedures and safe work practices to ensure the	
(C) The refinery employer shall develop	work practices, to control the entrance,	safe entry, presence and exit of the contractor and	
and implement effective written	presence and exit of contract employers and	employees of the contractor process areas.	
procedures in order to ensure the safe	contract employees in covered process areas.		
entry, presence and exit of the contractor		(d) The refinery employer must periodically	
and employees of the contractor in	(d) The employer must periodically evaluate the	evaluate the performance of contractors in	
process areas.	performance of contract employers in fulfilling	fulfilling their obligations as specified in this	
	their obligations as specified in this section. The	section. The refinery employer must ensure and	
(D) The refinery employer shall	employer must ensure and document that the	document that the requirements of this section are	
periodically evaluate the performance of	requirements of this subsection are performed	performed and completed by the contractor.	
contractors in fulfilling their obligations, as	and completed by the contractor.		
specified in this subsection. The refinery		(e) The refinery employer must obtain and make	
employer shall ensure and document that	(e) The employer must maintain a contract	available to the Division of Occupational Safety	
the requirements of this subsection are	employee injury and illness log related to the	and Health (DOSH) upon request, a copy of the	
performed and completed by the	contractor's work in process areas.	contractor's injury and illness log related to the	
contractor.		contractor's work in the process area.	

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(E) The refinery employer shall obtain and	(3) Contract employer responsibilities.(a) The contract employer must ensure that	(3) Contractor responsibilities.	
make available to the Division of	each contract employee is trained in the work		
Occupational Safety and Health (Division)	practices necessary to safely perform his/her	(a) The contractor must ensure that all of its	
upon request a copy of the contractor's	job. includina:	employees are effectively trained pursuant to	
iniury and illness log related to the	, , , , , , , , , , , , , , , , , , ,	WAC 296-67-XXXX in the work practices	
contractor's work in the process areas.	(i) Potential process safety hazards related to	necessary to safely perform their jobs, including:	
	their jobs:	,	
(3) Contractor responsibilities.	, , , , , , , , , , , , , , , , , , ,	(i) Potential process safety hazards related to their	
	(ii) Applicable refinery safety rules:	iobs:	
(A) The contractor shall ensure that it			
meets the requirements of Health and	(iii) The specific actions to take in an	(ii) Applicable refinery safety rules:	
Safety Code Section 25536.7, and that all	emergency; and		
of its employees are effectively trained,		(iii) The specific actions to take in an emergency;	
pursuant to subsection (g), in the work	(iv) Other applicable provisions of this section,	and	
practices necessary to safely perform their	including the provisions of the emergency		
jobs, including:	action or response plan.	(iv) Applicable provisions of this chapter, including	
		the provisions of the Emergency Action Plan,	
1. Potential process safety hazards related	(b) The contract employer must document that	pursuant to WAC 296-67-XXXX.	
to their jobs;	each contract employee has received and		
	understood the training required by this	(b) The contractor must document that each	
2. Applicable refinery safety rules; and,	subsection. The contract employer must	contract employee has received and understood	
	prepare a record, which contains the identity of	the training required by this section. The	
3. Applicable provisions of this section,	the contract employee, the date of training, and	contractor must prepare a record that contains the	
including the provisions of the Emergency	the means used to verify that the employee	identity of the contract employee, the date and	
Action Plan, pursuant to subsection (p).	understood the training.	subject of training, and the means used to verify	
	_	that the employee understood the training.	
(B) The contractor shall document that	(c) The contract employer must advise the		
each of its employees has successfully	employer of any specific hazards presented by		

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 completed the training required by this subsection by maintaining a record identifying 1. Each employee who has received training; 2. The date(s) and subject(s) of training 	the contract employer's work, or of any hazards identified by the contractor while performing work for the host employer.	 (c) The contractor must advise the refinery employer of any specific hazards presented by the contractor's work, as well as any hazards identified by the contractor while performing work for the refinery employer. (4) The refinery employer and contract employer must provide for employee collaboration, pursuant 	
each employee has received; and, 3. The means used to verify that the employee understood the training received.		to WAC 296-67-XXXX .	
(C) The contractor shall ensure that each of its employees understands and follows the safety and health procedures of the refinery employer and the contractor.			
(D) The contractor shall advise the refinery employer of specific hazards presented by the contractor's work, as well as any hazards identified by the contractor while performing work for the refinery.			
(4) Nothing in this subsection shall preclude the employer from requiring a contractor or an employee of a contractor to whom information is made available under this section to enter into a			

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confidentiality agreement prohibiting him			
or hor from disclosing such information			
act forth in CCP Title 9. Section 5104(i)			
set form in CCR Title 8, Section 5194(I).			0
(I) Pre-Start-Up Safety Review	WAC 296-XX-XXX Prestartup	WAC 296-67-XXXX Pre-startup	Commentary
	Safety Review.	safety review.	
(1) The employer shall perform a Pre-	(1) The employer must perform a prestartup	(1) The employer must perform a pre-startup	1. Removed last sentence of
Start-Up Safety Review (PSSR) for new	safety review (PSSR) for new facilities and for	safety review (PSSR) for new processes and for	(1) and referred to turnaround
processes and for modified processes if	modified facilities when the modification is	modified processes if the modification	language for better clarity.
the modification necessitates a change in	significant enough to require a change in the	necessitates a change in the PSI, pursuant to	
the PSI, pursuant to subsection (d) and for	process safety information (PSI). The employer	section XXXX and for partial or unplanned	2. Added language at (2)(b)
partial or unplanned shutdowns. The	must not move forward with a process startup	shutdowns. The employer must conduct a PSSR	
employer shall also conduct a PSSR for all	until all prestartup safety review items have	for all turnaround work performed on a process.	
turnaround work performed on a process.	been resolved and processing systems and		
	components are in place and in appropriate	(2) The pre-startup safety review must confirm all	
(2) The PSSR shall confirm all of the	condition for that startup.	of the following prior to the introduction of	
following prior to the introduction of highly		hazardous materials to a process:	
hazardous materials to a process:	(2) The prestartup safety review must confirm		
	that prior to the introduction of highly hazardous	(a) Construction, maintenance, and repair work	
(A) Construction, maintenance and repair	chemicals to a process:	has been performed in accordance with design	
work has been performed in accordance		specifications;	
with design specifications;	(a) Construction, maintenance and repair work		
	has been performed in accordance with design	(b) Process equipment has been maintained and	
(B) Process equipment has been	specifications;	is operable in accordance with design	
maintained and is operable in accordance		specifications;	
with design specifications;	(b) Effective safety, operating, maintenance,		
	and emergency procedures are in place and	(c) Effective safety, operating, maintenance and	
(C) Effective safety, operating,	are adequate	emergency procedures are in place:	
maintenance and emergency procedures			
are in place;			

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(D) For new processes a PHA HCA	(c) For new processes, a process hazard	(d) For new processes, a PHA, HCA, DMR, and	
DMR. and SPA have each been	analysis (HCA), damage mechanism review	pursuant to this section and recommendations	
performed, as applicable pursuant to this	(DMR), and safeguard protection analysis	have been implemented or resolved before start	
section, and recommendations have been	(SPA) have been performed and	up. For new or modified processes, all changes	
implemented or resolved before start-up.	recommendations have been resolved or	have been implemented pursuant to the	
For new or modified processes, all	implemented before startup; and modified	requirements of section XXXX ; and	
changes have been implemented pursuant	facilities meet the requirements contained in		
to the requirements of subsection (n); and,	management of change;	(e) I raining of all affected employees has been completed.	
(E) Training of each operating employee	(d) Training of each operations, maintenance,		
and maintenance employee affected by	or other affected employee involved in	(3) The employer must involve affected	
the change has been completed.	operating a process has been completed.	employees in the PSSR who have expertise and experience in the operations and engineering of	
(3) The employer shall involve operating or	(3) The employer must involve operating or	the process being started. An operating employee	
maintenance employees in the PSSR who	maintenance employees in the PSSR who	who currently works in the unit and who has	
nave expertise and experience in the	nave expense and experience in the	expertise, and experience in the process being	
being started. An operating employee who	being started An operating employee who	representative pursuant to section XXXX	
currently works in the unit and who has	currently works in the unit and who has		
expertise and experience in the process	expertise and experience in the process being		
being started shall be designated as the	started must be designated as the employee		
employee representative, pursuant to	representative.		
subsection (q).			
(j) Mechanical Integrity.	WAC 296-XX-XXX	WAC 296-67-XXXX	Commentary
	Mechanical Integrity.	Mechanical integrity.	

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(1) Written procedures.	(1) Application. This section applies to all	(1) Written procedures.	1. Removed language at the
(A) The employer shall develop	process equipment.	(a) The employer must develop implement and	end of the previous (2)
implement and maintain effective written	(2) Written procedures. The employer must	maintain effective written procedures to ensure	2 Simplified the temporary
procedures to ensure the ongoing integrity	develop, implement, and maintain effective	the ongoing integrity of process equipment.	repair language at the end of
of process equipment.	written procedures to ensure the ongoing		(4)(a)
	integrity of process equipment. These	(b) The procedures must provide clear instructions	
(B) The procedures shall provide clear	procedures must include a documented review	for safely conducting maintenance activities on	3. Added language at end of
instructions for safely conducting	of industry leading factors.	process equipment, consistent with the PSI for the	(3)(c)
maintenance activities on process		process, pursuant to section XXX	
equipment, consistent with the PSI,	(a) The procedures must provide clear		4. At (5)(d) added
pursuant to subsection (d).	instructions for safely conducting maintenance	(c) The procedures and inspection documents	"maintenance materials and
(C) The procedures and inspection	with the PSI	developed under this section must be readily	spare parts
documents developed under this		representatives	5 At $(5)(f)$ stipulation that
subsection shall be readily accessible to	(b) The procedures and inspection documents		equipment that is
employees and employee representatives.	developed under this subsection must be	(2) Training for process maintenance activities.	substantially similar to failed
pursuant to subsection (q).	readily accessible to employees and employee	The employer must train affected employees	equipment must be
	representatives.	involved in maintaining the ongoing integrity of	evaluated for a similar
(2) Inspection and testing.		process equipment in an overview of that process	hazard.
	(3) Training for process maintenance activities.	and its corresponding hazards; and in the	
(A) Inspections and tests shall be	The employer must train each employee	procedures applicable to the employee's job	6. Removed (6)(c); concept
performed on process equipment using	involved in maintaining the ongoing integrity of	tasks, to ensure that the employee can perform	covered in section language
procedures that meet or exceed	process equipment in an overview of that	the job tasks in a safe manner.	
RAGAGEP.	applicable to the employee's job tasks to	(3) Inspection and testing	
(B) The frequency of inspections and tests	ensure that the employee can perform the job		
shall be consistent with:	tasks in a safe manner.		

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(1) the applicable manufacturer's	(4) Inspection and testing.	(a) Inspections and tests must be performed on	
recommendations,		process equipment using procedures that meet or	
	(a) Inspections and tests must be performed on	exceed RAGAGEP.	
(2) RAGAGEP or	process equipment.		
		(b) The frequency of inspections and tests of	
(3) internal practices that are more	(b) Inspection and testing procedures must	process equipment must be consistent with:	
protective than (1) or (2).	meet or exceed recognized and generally		
	accepted good engineering practices	(i) The applicable manufacturer's	
Inspections and tests shall be conducted	(RAGAGEP).	recommendations;	
more frequently if necessary, based on the			
operating experience with the process	(c) The frequency of inspections and tests of	(ii) Recognized and generally accepted good	
equipment.	process equipment must be consistent with:	engineering practices (RAGAGEP);	
(C) The employer shall retain a	(i) The applicable manufacturers'	(iii) Operating history of process equipment: and	
(C) The employer shall retain a	(i) The applicable manufacturers	(iii) Operating history of process equipment, and	
inspection and test has been performed in		(iv) Internal practices that are more protective than	
accordance with this subsection The	(ii)Recognized and generally accepted good	(i) (iii) or (iii) of this subsection	
certification record shall identify the date of	engineering practices (RAGAGEP):		
the inspection, the name of the person		(c) Inspections and tests must be performed more	
who performed the inspection or test, a	(iii) Operating history of process equipment:	frequently if determined to be necessary by prior	
description of the inspection or test	and	operating or equipment maintenance experience.	
performed, the results of the inspection or			
test, and the serial number or other	(iv) Internal practices that are at least as or	(d) The employer must retain documentation for	
identifier of the process equipment.	more protective than (i), (iii) or (iii) of this	each inspection and test that has been performed	
	subsection.	on process equipment. The documentation must	
(3) Equipment deficiencies.		identify the date of the inspection or test, the name	
	(v) Inspections must be done more frequently if	of the person who performed the inspection or	
(A) The employer shall correct deficiencies	determined to be necessary by prior operating	test, the assigned number or other such identifier	
to ensure safe operation of process	experience.	of the equipment on which the inspection or test	

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equipment. Repair methodologies shall be		was performed, a description of the inspection or	
consistent with RAGAGEP or more	(d) The employer must retain documentation	test performed, and the results of the inspection or	
protective internal practices.	for each inspection and test that has been	test.	
	performed on process equipment. The		
(4) Quality assurance.	documentation must identify the date of the	(4) Equipment deficiencies.	
	inspection or test, the name of the person who		
(A) The employer shall ensure that all	performed the inspection or test, the serial	(a) The employer must correct deficiencies in	
process equipment at a minimum complies	number or other identifier of the equipment on	equipment that are outside acceptable limits	
with the criteria established by the PSI,	which the inspection or test was performed, a	(defined by the process safety information (PSI))	
pursuant to subsection (d). The employer	description of the inspection or test performed,	before further use or in a safe and timely manner	
shall ensure that all process equipment is:	and the results of the inspection or test.	when necessary means are taken to ensure safe	
		operation. For purposes of this section, "safe and	
1. Suitable for the process application for	(5) Equipment deficiencies.	timely" is defined as the first outage after the	
which it is or will be used;		deficiency is detected. If a temporary repair fails,	
	(a) The employer must correct deficiencies in	the employer did not take necessary means to	
2. Fabricated from the proper materials of	equipment that are outside acceptable limits	ensure safe operation.	
construction; and,	(defined by the process safety information		
	(PSI)) before further use or in a safe and timely	(b) Repair methodologies and preventive	
3. Designed, constructed, installed,	manner when necessary means are taken to	maintenance must be consistent with recognized	
maintained, inspected, tested, operated	ensure safe operation. For purposes of this	and generally accepted good engineering	
and replaced in compliance with	section, "Safe and timely" is defined as the first	practices (RAGAGEP) or more protective internal	
manufacturer's and other design	outage after the deficiency is detected or when	practices.	
specifications and all applicable codes and	a temporary repair fails one time, whichever		
standards.	occurs first.	(5) Quality assurance.	
(B) If the employer installs new process	(b) Repair methodologies must be consistent	(a) The employer must ensure that all process	
equipment or has existing process	with RAGAGEP or more protective	equipment at a minimum complies with the criteria	
equipment for which no RAGAGEP exists,	methodologies.	established by the PSI, pursuant to section	
the employer shall document and ensure	-		

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that this equipment is designed,	(6) Quality assurance.	XXXX . The employer must ensure that all process	
constructed, installed, maintained,		equipment is:	
inspected, tested and operating in a safe	(a) In construction of new plants and		
manner.	equipment, the employer must ensure that	(i) Suitable for the process application for which it	
	equipment, as it is fabricated, is suitable for the	is or will be used;	
(C) The employer shall conduct regularly	process application for which they will be used.		
scheduled checks and inspections as	If the employer installs new process equipment	(ii) Fabricated from the proper materials of	
necessary to ensure that the requirements	or has existing process equipment for which no	construction; and,	
of subsection (j)(4)(A) are met.	RAGAGEP exists, the employer must		
	document and ensure that this equipment is	(iii) Designed, constructed, installed, maintained,	
(D) The employer shall ensure that	designed, constructed, installed, maintained,	inspected, tested, operated and replaced in	
maintenance materials, spare parts and	inspected, tested and operated in a safe	compliance with manufacturer's and other design	
equipment meet design specifications and	manner.	specifications and all applicable codes and	
applicable codes.		standards.	
	(b) Once an equipment deficiency is identified,		
(E) The employer shall establish a process	substantially similar equipment throughout	(b) If the employer installs new process equipment	
for evaluating new or updated codes and	other areas of the facility must be evaluated for	or has existing process equipment for which no	
standards and implementing changes as	the same deficiency.	RAGAGEP exists, the employer must document	
appropriate to ensure safe operation		and ensure that this equipment is designed,	
	(c) Vessels, piping, and all affected equipment	constructed, installed, maintained, inspected,	
	must be inspected after each power outage,	tested and operating in a safe manner.	
	emergency shut down, emergency operation,		
	or other detrimental processing event. The	(c) The employer must conduct regularly	
	service life of the equipment must be re-	scheduled checks and inspections as necessary	
	evaluated in order to identify any deficiencies	to ensure that the requirements of subsection	
	that may have adversely impacted its original	XXXX are met.	
	service life.		

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(k) Damage Mechanism Review.	 (d) The employer must establish a process for evaluating new or updated codes and standards and implementing changes as appropriate to ensure safe operation. (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: (i) Suitable for the process application for which it is or will be used; (ii) Fabricated from the proper materials of construction; and (iii) Designed, constructed, installed, maintained, inspected, tested, operated and replaced in compliance with manufacturer's and other design specifications and all applicable codes and standards. 	 (d) The employer must ensure that maintenance materials, spare parts and equipment meet design specifications and applicable codes. (e) The employer must establish a process for evaluating new or updated codes and standards and implementing changes as appropriate to ensure safe operation. (f) Once an equipment deficiency or failure mechanism is identified, substantially similar equipment in similar service must be evaluated for the same deficiency or failure mechanism. 	Commentary
	Damage mechanism review.	Damage mechanism review.	
	No Chang		
(m) Hot Work.	WAC 296-XX-XXX Hot Work Permit.	WAC 296-67-XXXX Hot work.	Commentary
(1) The employer shall develop, implement and maintain an effective written	(1) The employer must issue a hot work permit prior to the commencement of hot work	(1) The employer must issue a hot work permit prior to the commencement of hot work operations within or near a covered process.	1. Added WAC code reference back in

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	Management of Change.	Management of change.	· · · · · · · · · · · · · · · · · · ·
(n) Management of Change.	WAC 296-XX-XXX	WAC 296-67-XXXX	Commentary
		(5) The employer must provide for employee collaboration, pursuant to section XXX	
		(C) The explanation must provide for every	
for one (1) year.	(4) The permit must be kept on file for one year.	year.	
(3) All hot work permits shall be kept on file		(4) Hot work permits must be kept on file for one	
party performing the not work.	inamian an effective written procedure for the issuance of hot work permits	issuance of not work permits.	
(D) Identify the name and employer of the	(3) The employer must develop, implement and	maintain effective written procedures for the	
		(3) The employer must develop, implement and	
which hot work is to be performed; and,	(d) Document an expiration date.	penorming the not work.	
(C) Identify the equipment or process on	performing the hot work.	(c) Identify the name and employer of the party	
which hot work is to be performed;	(c) Identify the name and employer of the party		
(B) Indicate the date(s) and time(s) during		work is to be performed;	
initiation of hot work;	(b) Identify the object on which hot work is to be	(b) Identify the location and equipment (including	
6777 have been implemented prior to the			
Section 4848 and CCR Title 8, Section	for hot work;	the permit;	
requirements contained in CCR Title 8.	(a) Indicate the date(s) and time(s) authorized	hot work, including the designated expiration of	
(A) Certify that the applicable portions of	implemented prior to beginning the hot work	(a) Indicate the data(a) and time(a) sutherized for	
	prevention and protection requirements were	the hot work operations. The permit must:	
(2) The permit shall:	(2) The permit must document that fire	24-695 have been implemented prior to beginning	
permits.	process.	(2) The permit must document that fire prevention	
procedure for the issuance of hot work	operations conducted on or near a covered		

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(1) The employer shall develop, implement	(1) The employer must develop, implement,	(1) The employer must develop, implement, and	1. Removed (7)
and maintain enective written MOC	and maintain ellective written procedures to	maintain elective written MOC procedures to	
procedures to manage changes (except	manage changes (except for "replacements in	assess and manage changes (except for	
for replacements-in-kind) in process	kind") to process chemicals, technology,	replacements-in-kind) in process chemicals,	
chemicals, technology, procedures,	equipment, and procedures; and, changes to	technology, procedures, process equipment and	
process equipment and facilities. The	facilities that affect a covered process. The	facilities. The MOC procedure must include	
MOC procedure shall include provisions	management of change (MOC) procedure must	provisions for temporary repairs, including	
for temporary repairs, including temporary	include provisions for temporary repairs.	temporary pipe repairs.	
pipe repairs	including temporary pipe repairs		
pipe repairer		(2) The MOC procedures must ensure that the	
(2) The MOC procedures shall ensure that	(2) The MOC procedures must ensure that the	following are addressed and documented prior to	
the following are addressed and	following considerations are documented and	any change:	
decumented prior to any change:	addressed prior to any shange:	any change.	
documented prior to any change.	addressed phor to any change.	(a) The technical basis for the propagad changes	
(A) The technical basis for the summer of	(-) The technical basis for the menored	(a) The technical basis for the proposed change,	
(A) The technical basis for the proposed	(a) The technical basis for the proposed		
change;	change;	(b) Potential process safety impacts of the	
(B) Potential process safety impacts of the		change.	
change;	(b) Impact of change on safety and health;		
		(c) Modifications to operating and maintenance	
(C) Modifications to operating and	(c) Modifications to operating and maintenance	procedures or development of new operating and	
maintenance procedures or development	procedures, or development of new operating	maintenance procedures;	
of new operating and maintenance	and maintenance procedures;		
procedures;		(d) The time period required for the change; and,	
	(d) Necessary time period for the change: and		
(D) The time period required for the	(u)	(e) Authorization requirements for the proposed	
change: and	(e) Authorization requirements for the proposed	change	
	change	onango.	
(E) Authorization requirements for the	ondrigo.	(3) Prior to implementing a major change, the	
reposed change		(5) Filler to implementing a major change, the	
proposed change.		employer must review or conduct a DIVIR pursuant	

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	(3) Employees involved in operating a process	to section XXXX and perform an HCA pursuant to	
(3) Prior to implementing a major change,	and maintenance and contract employees	section XXXX. The findings of the DMR and	
the employer shall review or conduct a	whose job tasks will be affected by a change in	recommendations of the HCA must be included in	
DMR pursuant to subsection (k) and	the process must be informed of, and	the MOC documentation.	
perform an HCA pursuant to subsection (<i>I</i>).	effectively trained in, the change prior to start-		
The findings of the DMR and	up of the process or affected part of the	(4) The employer must use qualified personnel	
recommendations of the HCA shall be	process.	and appropriate methods for all MOCs, based	
included in the MOC documentation.		upon hazard, complexity and type of change.	
	(4) For contractors and employees of		
(4) The employer shall use qualified	contractors who are operating the process and	(5) The employer must provide for employee	
personnel and appropriate methods for all	whose job tasks will be affected by a change,	collaboration pursuant to section XXXX.	
MOCs, based upon hazard, complexity	the employer must make the MOC		
and type of change.	documentation available and require effective	(6) Affected employees must be informed of, and	
	training in the change in a timely manner, prior	effectively trained in, the change in a timely	
(5) The employer shall provide for	to implementation of the change.	manner, prior to implementation of the change.	
employee participation pursuant to			
subsection (q).	(5) If a change covered by this section results	(7) If a change covered by this section results in a	
	in a change in the process safety information,	change to the PSI, such information must be	
(6) Employees involved in the process, as	such information must be updated accordingly.	amended and updated in a timely manner, in	
well as maintenance workers whose job		accordance with section XXX.	
tasks will be affected by a change, shall be	(6) If a change covered by this section results		
informed of, and effectively trained in, the	in a change in the operating procedures or	(8) If a change covered by this section results in a	
change in a timely manner, prior to	practices, such procedures or practices must	change to the Operating Procedures, the	
implementation of the change. For	be updated accordingly.	procedures must be amended and updated in a	
contractors and employees of contractors		timely manner, in accordance with section XXXX .	
who are operating the process and whose	(7) The author, staff member, employer		
job tasks will be affected by a change, the	representative, or manager who is responsible		
employer shall make the MOC	for the management of change (MOC)		
documentation available and require	document must participate in the MOC exercise		

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effective training in the change in a timely manner, prior to implementation of the change, pursuant to subsection (h).	with affected personnel; and certify in writing that the MOC evaluation is safe, complete, and all action items are completed prior to executing the change.		
results in a change to the PSI, such information shall be amended and updated in a timely manner, in accordance with subsection (d).	(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		
(8) If a change covered by this subsection results in a change to the Operating Procedures, the procedures shall be	of the HCA must be included in the MOC documentation.		
amended and updated in a timely manner, in accordance with subsection (f).	(9) The employer must use qualified personnel and appropriate methods for all MOCs based upon hazard, complexity and type of change.		
	(10) The employer must provide for employee collaboration.		
(t) Management of Organizational Change	WAC 296-XX-XXX Management of Organizational Change.	WAC 296-67-XXXX Management of organizational change.	Commentary
	No Chang	e	
(o) Incident Investigation – Root Cause Analysis	WAC 296-XX-XXX Incident Investigation— Root Cause Determination.	WAC 296-67-XXXX Incident investigation - root cause analysis	Commentary
(1) The employer shall develop, implement and maintain effective written procedures for promptly investigating and reporting	(1) The employer must develop, implement and maintain effective written procedures for promptly investigating and reporting any	(1) The employer must develop, implement and maintain effective written procedures for promptly investigating and reporting any incident that	1. Written report due in 90 days; final report due in four

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any incident that results in, or could	incident that results in, or could reasonably	results in, or could reasonably have resulted in, a	months. Removed provision
reasonably have resulted in, a major	have resulted in, a major incident. The written	process safety incident. The written procedures	for 30-day updates
incident.	procedures must include an effective method	must include an effective method for conducting a	
	for determining the root cause of an incident.	thorough root cause analysis, including	Removed (3)(e); overly
(2) The written procedures shall include an		identification of management system failures and	broad
effective method for conducting a thorough	(2) An incident investigation must be initiated as	organizational and safety culture deficiencies.	
Root Cause Analysis.	promptly as possible, but not later than forty-		3. Added language at new
	eight hours following the incident.	(2) The employer must initiate the incident	(11) requiring submission of
(3) The employer shall initiate the incident	6 6	investigation as promptly as possible, but no later	report to the Department.
investigation as promptly as possible, but	(3) An incident investigation team must be	than forty-eight hours following the incident.	
no later than 48 hours following an	established and consist of at least:		4. Added language at (4) to
incident. As part of the incident		(3) The employer must establish an incident	align with California
investigation the employer shall conduct	(a) One person with expertise and experience	investigation team which at a minimum must	
a Root Cause Analysis	in the process involved.	consist of a person with expertise and experience	
		in the process involved: a person with expertise in	
(4) The employer shall establish an	(b) A contract employee if the incident involved	the employer's root cause analysis method: and a	
Incident Investigation Team which at a	work of the contractor:	person with expertise in overseeing the	
minimum shall consist of a person with		investigation and analysis. The employer must	
expertise and experience in the process	(c) A parson with expertise in determining reat	provide for employee collaboration pursuant to	
involved, a person with expertise in the	(c) A person with expentise in determining root	provide for employee collaboration pursuant to	
involved, a person with expertise in the	causes of incidents,	section XXX. If the incident involved the work of a	
employer's Root Cause Analysis method;	(a) A memory with expertise in facilitation the	contractor, a representative of the contractors	
and a person with expertise in overseeing	(d) A person with expertise in facilitating the		
the investigation and analysis. The	investigation and analysis; and	team.	
employer shall provide for employee			
participation pursuant to subsection (q). If	(e) Any other persons with appropriate	(4) The incident investigation team must	
the incident involved the work of a	expertise and experience to thoroughly	implement the employer's root cause analysis	
contractor, a representative of the	investigate and analyze the incident.	method to determine the initiating and underlying	
contractor's employees shall be included		causes of the incident. The analysis must include	
on the investigation team.		identification of management system failures,	

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(f) The example is a number of the example is a line built of a superior of the second s	
(T) The employer must provide for employee including organizational and	salety culture
(5) The incident investigation Team shall collaboration.	
implement the employer's Root Cause	
Analysis method to determine the initiating (4) A written report must be prepared at the (5) The incident investigation tea	m must develop
and underlying causes of the incident. The conclusion of the investigation, which includes, recommendations to address the	e findings of the
analysis shall include identification of at a minimum: root cause analysis. The recomm	nendations must
management system failures, including include interim measures that	will prevent a
organizational and safety culture (a) Date and time of the incident; recurrence or similar incident unt	il final corrective
deficiencies. actions can be implemented.	
(b) Date and time the investigation began;	
(6) The Incident Investigation Team shall (6) The incident investigation tea	m must prepare
develop recommendations to address the (c) A detailed description of the incident; a written investigation report	within ninety
findings of the Root Cause Analysis. The (d) The factors that contributed to the incident calendar days of the incident.	The team must
recommendations shall include interim including direct causes, indirect causes and prepare a final investigation re	port within four
measures that will prevent a recurrence or root causes; months of the incident.	
similar incident until final corrective actions	
can be implemented. (e) A list of any DMR(s), PHA(s), SPA(s), and (7) Investigation reports must incl	ude:
HCA(s) that were reviewed as part of the	
(7) The team shall prepare a written investigation; (a) The date and time of the incid	ent;
investigation report within ninety (90)	
calendar days of the incident. If the team (f) Documentation of relevant findings from the (b) The date and time the investic	gation began;
demonstrates in writing that additional time review of DMR(s), PHA(s), SPA(s) and HCA(s);	
is needed due to the complexity of the (c) A detailed description of the in	ncident;
investigation, the team shall prepare a (g) Any recommendations resulting from the	
status report within ninety (90) calendar investigation; and (d) The factors that caused or co	ontributed to the
days of the incident and every thirty (30)	indirect causes
calendar days thereafter until the (h) Interim safety measures implemented by and root causes, determined the	hrough the root
investigation is complete. The team shall the employer.	5

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where the set of the first second set of the	(E) The eventeers report of the link of events of the	(-) A list of even $DMD(-)$ $DUA(-)$ $DDA(-)$ and	
prepare a final investigation report within	(5) The employer must establish a system to	(e) A list of any DIVIR(s), PHA(s), SPA(s), and	
five (5) months of the incident.	promptly address and resolve the incident	HCA(s) that were reviewed as part of the	
	report findings and recommendations.	investigation;	
(8) Investigation reports shall include:	Resolutions and corrective actions must be		
	documented. The recommendations must	(f) Documentation of relevant findings from the	
(A) The date and time of the incident;	include interim measures that will prevent a	review of DMR(s), PHA(s), SPA(s), and HCA(s);	
	recurrence or similar incident until final		
(B) The date and time the investigation	corrective actions can be implemented.	(g) The incident investigation team's	
began:		recommendations; and	
3	(6) The incident investigation team must review	(h) Interim measures implemented by the	
(C) A detailed description of the incident:	the incident scenarios evaluated in the most	employer.	
(c) / · · · · · · · · · · · · · · · · · ·	recent PHA and must revise the safeguard		
(D) The factors that caused or contributed	protection analyses (SPAs) in the PHA if	(8) The employer must implement all	
to the incident including direct causes	necessary	recommendations in accordance with section	
indirect causes and root causes			
determined through the Post Causes,	(7) Investigation reports must be provided	^^^.	
Analyzia	(7) Investigation reports must be provided	(0) The employer must complete an HCA in a	
Analysis,	within one week of its completion, and upon	(9) The employer must complete an HCA in a	
	request, reviewed with employees whose job	timely manner for all recommendations that result	
(E) A list of any DMR(s), PHA(s), SPA(s),	tasks are affected by the incident. Investigation	from the investigation of a major incident. The	
and HCA(s) that were reviewed as part of	reports must also be made available to all	employer must append the HCA report to the	
the investigation;	operating, maintenance and other personnel,	investigation report.	
(F) Documentation of relevant findings	including employees of contractors where		
from the review of DMR(s), PHA(s),	applicable, whose work assignments are within	(10) Within one week upon the completion of	
SPA(s) and HCA(s);	the facility where the incident occurred or	reports required under subsection six, the reports	
	whose job tasks are relevant to the incident	must be provided to affected employees. Upon	
(G) The Incident Investigation Team's	findings. Investigation reports must be provided	request the employer must review the report with	
recommendations; and,	on request to employee representatives and,	affected employees. These reports must be	
	where applicable, contractor employee	provided upon request to affected employee	
	representatives.		
 (8) Investigation reports shall include: (A) The date and time of the incident; (B) The date and time the investigation began; (C) A detailed description of the incident; (D) The factors that caused or contributed to the incident, including direct causes, indirect causes and root causes, determined through the Root Cause Analysis; (E) A list of any DMR(s), PHA(s), SPA(s), and HCA(s) that were reviewed as part of the investigation; (F) Documentation of relevant findings from the review of DMR(s), PHA(s), SPA(s), SPA(s) and HCA(s); (G) The Incident Investigation Team's recommendations; and, 	 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. (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. (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. 	 (f) Documentation of relevant findings from the review of DMR(s), PHA(s), SPA(s), and HCA(s); (g) The incident investigation team's recommendations; and (h) Interim measures implemented by the employer. (8) The employer must implement all recommendations in accordance with section XXX. (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 append the HCA report to the investigation report. (10) Within one week upon the completion of reports required under subsection six, the reports must be provided to affected employees. Upon request the employees. These reports must be provided upon request to affected employee 	

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(H) Interim measures implemented by the		representatives and employers of affected	
employer	(8) The team must prepare a written	employees	
	(b) The team must prepare a written	employees.	
(0) The eventeur shell implement all	of the incident. If the term demonstrates in		
(9) The employer shall implement all	of the incident. If the team demonstrates in	(11) Any draft of final report required in subsection	
recommendations in accordance with	writing that additional time is needed due to the	six and related documentation must be provided	
subsection (x).	complexity of the investigation, the team must	immediately to the department upon written	
	prepare a status report within ninety calendar	request.	
(10) The employer shall complete an HCA	days of the incident and every thirty calendar		
in a timely manner for all	days thereafter until the investigation is	(12) Incident investigation reports must be	
recommendations that result from the	complete. The team must prepare a final	retained for the life of the process unit.	
investigation of a major incident. The	investigation report within four months of the		
employer shall append the HCA report to	incident.		
the investigation report.			
	(9) The employer must complete an HCA in a		
(11) Investigation reports shall be provided	timely manner for all recommendations that		
to and upon request reviewed with	result from the investigation of a major incident		
employees whose job tasks are affected	The employer must attach the HCA report to		
by the incident Investigation reports shall	the investigation report		
also he made available to all operating			
also be made available to all operating,	(10) Insident investigation reports must be		
maintenance and other personnel,	(10) Incident investigation reports must be		
Including employees of contractors where	retained for the life of the process.		
applicable, whose work assignments are			
within the facility where the incident			
occurred or whose job tasks are relevant			
to the incident findings. Investigation			
reports shall be provided on request to			
employee representatives and, where			
applicable, contractor employee			
representatives.			

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(12) Incident investigation reports shall be retained for the life of the process unit.			
(p) Emergency Planning and Response	WAC 296-XX-XXX Emergency Planning and Response.	WAC 296-67-XXXX Emergency planning and response.	Commentary
(A) The employer shall develop,	(1) The employer must develop, implement and	(1) The employer must develop, implement and	1. Added WAC code
Emergency Action Plan pursuant to CCR Title 8, Section 3220.	maintain an effective emergency response or emergency action plan for the entire plant. An emergency response plan must define and	maintain an effective emergency response or emergency action plan for the entire plant, in accordance with the provisions of WAC 296-24-	types of incidents.
	include procedures for handling small releases.	567, Employee emergency plans and fire prevention plans, and chapter 296-824 WAC,	2. Simplified language at (2).
	(2) If the employer plans to rely on external emergency response organization during an	Emergency response. An emergency response plan must define and include procedures for	
	emergency, it must document the nature and	handling all of the below:	
	agreement between itself and any expected assistance from that entity. All drills, scenarios,	(a) Large and small spills or releases;	
	items must be included in the documentation	(b) Fires;	
	emergency response entity.	(c) Explosions; and	
		(d) Any other emergency with a direct bearing on employee safety and health.	
		(2) The written plan must specify how an emergency response will be executed if it exceeds the capability of the employer's internal emergency response team.	

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		(3) The employer must provide for employee collaboration.	
(u) Compliance Audits.	WAC 296-67-XXXX Compliance audits.	WAC 296-67-XXXX Compliance audits.	Commentary
(1) Every three (3) years, the employer	(1) Employers must certify that they have	(1) Every three years, the employer must conduct	1. Added last sentence to (1)
shall conduct an effective Compliance	evaluated compliance with the provisions of	an effective compliance audit. The employer must	in order to align with
Audit. The employer shall certify that they	this section at least every three years to verify	certify that they have evaluated compliance with	California rule
have evaluated compliance with the	that the procedures and practices developed	the provisions of this chapter to verify that the	
provisions of this section to verify that the	under the standard are effective and are being	procedures and practices developed under this	
procedures and practices developed	followed.	chapter are effective and being followed. The	
under this section are effective and being		employer must prepare a written report of the	
followed. The employer shall prepare a	(2) The compliance audit must be conducted by	findings of the compliance audit.	
written report of the findings of the	at least one person with expertise and		
Compliance Audit.	experience in the process being audited. As	(2) The compliance audit must be conducted by at	
	part of the compliance audit, the employer must	least one person with expertise and experience in	
(2) The Compliance Audit shall be	consult with operators with expertise and	the requirements of the section under review. As	
conducted by at least one person with	experience in each process audited and must	part of the compliance audit, the employer must	
expertise and experience in the	document the findings and recommendations	consult with operators with expertise and	
requirements of the subsection under	The report state the multification of the state the state of the state	experience in each process audited and must	
review. As part of the Compliance Audit,	I he report must state the qualifications and	document the findings and recommendations from	
the employer shall consult with operators	identity of the persons performing the	these consultations in the written report. The	
with expertise and experience in each	compliance audit.	report must state the qualifications and identity of	
findings and recommendations from these	(2) The employer must premetly determine and	the persons performing the compliance audit.	
and recommendations from these	(3) The employer must promptly determine and	(2) The employer must make the report evoluble	
report shall state the qualifications and	the findings of the compliance sudit and	(3) The employee must make the report available	
identity of the persona performing the	decument that deficiencies have been	nursuant to section XXXX The employer must	
Compliance Audit	corrected	respond in writing within sixty days to any written	
		commonts submitted by an omployee or	
		omployee representative regarding the report	
1		remployee representative regarding the report.	

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(3) The employer shall make the report available to employees and employee representatives, pursuant to subsection (q). The employer shall respond in writing within sixty (60) calendar days to any written comments submitted by an employee or employee representative regarding the report.	(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.	 (4) The employer must implement all recommendations in accordance with section XXXX. (5) The employer must retain the three most recent compliance audit reports. 	
(4) The employer shall implement all recommendations in accordance with subsection (x).	(5) Employers must retain the three most recent compliance audit reports.		
(5) The employer shall retain the three (3) most recent compliance audit reports.			
(6) The Compliance Audit report shall fulfill the inspection requirements related to process safety under CCR Title 8, Section 3203 but shall not relieve the employer of other obligations thereunder, including inspection for other hazards.			
(w) Division Access to Documents and Information.	WAC 296-XX-XXX Trade Secrets.	WAC 296-67-XXXX Trade secrets.	Commentary
(1) The employer shall provide all documents and information developed or collected pursuant to this Section to the Division upon request	(1) Employers must make all information necessary to comply with the section available to those persons responsible for:	(1) Without regard to possible trade secret status of such information, employers must make all information necessary to comply with the section available to those persons responsible for compiling the process safety information (required	1. Stylistic change

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(a) Compiling the process safety information (required by WAC 296-67-071);	by WAC 296-67-XXXX), those assisting in the development of the process hazard analysis	
 (b) Assisting in the development of the process hazard analysis (required by WAC 296-67-081); (c) Developing the operating procedures (required by WAC 296-67-085); 	(required by WAC 296-67-XXXX), those responsible for developing the operating procedures (required by WAC 296-67-XXXX), and those involved in incident investigations (required by WAC 296-67-XXXX), emergency planning and response (WAC 296-67-XXXX) and compliance audits (WAC 296-67-XXXX).	
 (d) Incident investigations (required by WAC 296-67-113); (e) Emergency planning and response (WAC 296-67-117); and (f) Compliance audits (WAC 296-67-121) without regard to possible trade secret status of such information. (2) Nothing in this section must preclude the applauer from requiring the persons to when 	(2) Nothing in this section precludes 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- 901-14018, Trade secrets.	
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. (3) Subject to the rules and procedures set forth in WAC 296-67-117, employees and their		

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	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.		
(r) Process Safety Culture	WAC 296-67-XXXX Process safety culture	WAC 296-67-XXXX Process safety culture	Commentary
Assessment.	assessment.	assessment.	
(1) The employer shall develop, implement	(1) The employer must develop, implement and	(1) The employer must develop, implement and	 Added language at (4)(e)
and maintain an effective PSCA program.	maintain an effective process safety culture assessment (PSCA) program.	maintain an effective process safety culture assessment (PSCA) program.	– (k)
(2) The employer shall conduct an			
effective PSCA and produce a written	(2) The employer must conduct an effective	(2) The employer must conduct an effective PSCA	
report within eighteen (18) months	PSCA and produce a written report within	and produce a written report within eighteen	
following the effective date of this section,	eighteen months following the effective date of	months following the effective date of this chapter,	
and at least once every five (5) years	this section, and at least every five years	and at least every five years thereafter. If the	
thereafter. If the employer has conducted	thereafter. If the employer has conducted and	employer has conducted and documented a	
and documented a PSCA up to eighteen	documented a PSCA up to eighteen months	PSCA up to eighteen months prior to the effective	
(18) months prior to the effective date of	prior to the effective date of this section, and	date of this chapter, and that PSCA includes the	
this section, and that PSCA includes the	that PSCA includes the elements identified in	elements required in this section, that PSCA may	
elements identified in this subsection, that	this subsection, that PSCA may be used to	be used to satisfy the employer's obligation to	
PSCA may be used to satisfy the	satisfy the employer's obligation to complete an	complete an initial PSCA.	
employer's obligation to complete an initial	initial PSCA under this subsection.		
PSCA under this subsection.		(3) The PSCA must be developed and	
	(3) The PSCA must be developed and	implemented by a team that must include at least	
(3) The PSCA shall be developed and	implemented by a team that must include at	one member knowledgeable in refinery operations	
implemented by a team that shall include	least one member knowledgeable in refinery	and at least one employee representative. The	
at least one member knowledgeable in	operations and at least one employee	employer must provide for employee	
refinery operations and at least one	representative with processing and	collaboration, pursuant to section XXX. The team	
employee representative. The employer	maintenance experience. The employer must	must consult with at least one employee or	
shall provide for employee participation.	provide for employee collaboration; and consult	another individual with expertise in assessing	

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pursuant to subsection (q). The team shall	with at least one employee or another individual	process safety culture in the petroleum refining	
consult with at least one employee or	with expertise in assessing process safety	industry.	
another individual with expertise in	culture in the petroleum refining industry.		
assessing process safety culture in the		(4) The PSCA must at least include an evaluation	
petroleum refining industry.	(4) The PSCA must include an evaluation of the	of the effectiveness of the following elements of	
r	effectiveness of the following elements of	process safety leadership.	
(4) The PSCA shall include an evaluation	process safety leadershin:		
of the offectiveness of the following		(a) The employer's bazard reporting program:	
of the effectiveness of the following	(a) The employer's bezerd reperting pressures.	(a) The employer's hazard reporting program,	
elements of process safety leadership.	(a) The employer's nazard reporting program,	(b) The eventer received to report of	
		(b) The employer's response to reports of	
(A) The employer's hazard reporting	(b) The employer's response to reports of	hazards;	
program;	hazards;		
		(c) The employer's procedures to ensure that	
(B) The employer's response to reports of	(c) The employer's procedures to ensure that	incentive programs do not discourage reporting of	
hazards;	incentive programs do not discourage reporting	hazards;	
	of hazards; and		
(C) The employer's procedures to ensure		(d) The employer's procedures to ensure that	
that incentive programs do not discourage	(d) The employer's procedures to ensure that	process safety is prioritized during upset or	
reporting of hazards: and	process safety is prioritized during upset or	emergency conditions	
roporting of hazardo, and,	emergency conditions		
(D) The employer's procedures to ensure		(e) Employee collaboration practices:	
(b) The employer's procedures to ensure	(5) The team must develop a written report		
unact or omorgonal conditiona	(5) The team must develop a whiteh report	(f) Compliance with government regulations	
upset of emergency conditions.	within hinely calendar days of completion of the	(I) Compliance with government regulations,	
	PSCA, which must include:	KAGAGEPS and internal policies and procedures;	
(5) The team shall develop a written report			
within ninety (90) calendar days of	(a) The method(s) used to conduct the PSCA;	(g) Asset integrity and reliability;	
completion of the PSCA, which shall			
include:	(b) The findings and conclusions of the PSCA;	(h) Contractor management;	
	and		

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(A) The method(s) used to conduct the		(i) Safe work practices;	
PSCA;	(c) The team's recommendations to address		
	the findings of the PSCA.	(j) Employee competency, training, and	
(B) The findings and conclusions of the		performance assurance; and	
PSCA; and,	(6) The employer, in consultation with the		
	PSCA team, must prioritize recommendations	(k) Compliance audits.	
(C) The team's recommendations to	and implement corrective actions within twenty-		
address the findings of the PSCA.	four months of completion of the written report	(5) The team must develop a written report within	
		ninety calendar days of completion of the PSCA,	
(6) The employer, in consultation with the	(7) The PSCA team must conduct a written	which must include:	
PSCA team, shall prioritize	interim assessment of the implementation and		
recommendations and implement	effectiveness of each PSCA corrective action	(a) The method(s) used to conduct the PSCA;	
corrective actions within 24 months of	within three years following the completion of a		
completion of the written report.	PSCA report. If a corrective action is found to	(b) The findings and conclusions of the PSCA; and	
	be ineffective, the employer must implement		
(7) The PSCA team shall conduct a written	changes necessary to ensure effectiveness in	(c) The team's recommendations to address the	
Interim Assessment of the implementation	a timely manner not to exceed six months.	findings of the PSCA.	
and effectiveness of each PSCA corrective			
action within three (3) years following the	(8) The refinery manager or designee must	(6) The employer, in consultation with the PSCA	
completion of a PSCA report. If a	serve as signatory to all PSCA reports,	team, must prioritize recommendations and	
corrective action is found to be ineffective,	corrective action plans and Interim	implement corrective actions within twenty-four	
the employer shall implement changes	Assessments.	months of completion of the written report.	
necessary to ensure effectiveness in a			
timely manner not to exceed six (6)	(9) PSCA reports, corrective action plans and	(7) The PSCA team must conduct a written interim	
months.	Interim Assessments must be communicated	assessment of the implementation and	
	and made available to employees, their	effectiveness of each PSCA corrective action	
(8) The refinery manager or designee shall	representatives and participating contractors	within three years following the completion of a	
serve as signatory to all PSCA reports.	within sixty calendar days of completion.	PSCA report. If a corrective action is found to be	
		ineffective, the employer must implement changes	

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corrective action plans and Interim Assessments.	(10) Participating contractors must provide PSCA reports, corrective action plans and Interim Assessments to their employees and	necessary to ensure effectiveness within, but not to exceed, six months.	
(9) PSCA reports, corrective action plans and Interim Assessments shall be communicated and made available to employees, their representatives and	employee representatives within fourteen calendar days of receipt.	(8) The refinery manager must serve as signatory to all PSCA reports, corrective action plans and interim assessments.	
participating contractors within sixty (60) calendar days of completion.		(9) PSCA reports, corrective action plans and interim assessments must be communicated and made available to all employees their	
(10) Participating contractors shall provide PSCA reports, corrective action plans and Interim Assessments to their employees		representatives, and participating contractors within sixty calendar days of completion.	
and employee representatives within fourteen (14) calendar days of receipt.		(10) Participating contractors must provide PSCA reports, corrective action plans, and interim	
		assessments to their employees and employee representatives within fourteen calendar days of receipt.	
(s) Human Factors.	WAC 296-67-XXXX Human factors.	WAC 296-67-XXXX Human factors.	Commentary
(1) The employer shall develop, implement and maintain an effective written Human	(1) The employer must develop, implement and	(1) The employer must develop, implement and	1. At (2), removed "best
Factors program within eighteen (18) months following the effective date of this section.	program within eighteen months following the effective date of this section.	maintain an effective written human factors program within eighteen months following the effective date of this chapter.	practices" and added RAGAGEP language

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The analysis shall include a description of the selected methodologies and criteria for	a description of the selected methodologies and criteria for their use.	and HCAs. The analysis must include a description of the selected methodologies and	
their use.		criteria for their use.	
	(3) The employer must assess human factors		
(3) The employer shall assess Human	in existing operating and maintenance	(3) The employer must assess human factors in	
Factors in existing operating and	procedures and must revise these procedures	existing operating and maintenance procedures	
maintenance procedures and shall revise	accordingly The employer must complete fifty	and must revise these procedures accordingly	
these procedures accordingly The	percent of assessments and revisions within	The employer must complete fifty percent of	
employer shall complete no less than fifty	three years following the effective date of this	assessments and revisions within three years	
(50) percent of assessments and rovisions	soction and one hundred percent within five	following the offective date of this section and one	
within three (2) years following the	veore	hundred percent within five years	
effective data of this section and and	years.	nunureu percent within nve years.	
enective date of this section and one	(4) The house factors and the second and the	(A) The human factors exclusion much and	
nundred (100) percent within five (5)	(4) The numan factors analysis must apply an	(4) The numan factors analysis must apply an	
years.	effective method in evaluating the following:	effective method in evaluating at least the	
(4) The Human Factors analysis shall		following:	
apply an effective method in evaluating the	(a) Staffing levels;		
following: staffing levels; the complexity of		(a) Staffing levels;	
tasks; the length of time needed to	(b) Complexity of tasks;		
complete tasks; the level of training,		(b) Complexity of tasks;	
experience and expertise of employees;	(c) Length of time needed to complete tasks;		
the human-machine and human-system		(c) Length of time needed to complete tasks;	
interface; the physical challenges of the	(d) Level of training, experience and expertise		
work environment in which the task is	of employees;	(d) Level of training, experience and expertise of	
performed; employee fatigue and other		employees;	
effects of shiftwork and overtime;	(e) Human-machine and human-system		
communication systems; and the	interface;	(e) Human-machine and human-system interface;	
understandability and clarity of operating			
and maintenance procedures.	(f) Physical challenges of the work environment	(f) Physical challenges of the work environment in	
	in which the task is performed;	which the task is performed;	

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(5) The Human Factors analysis of process controls shall include:	(g) Employee fatigue and other effects of shiftwork and overtime:	(g) Employee fatigue and other effects of shiftwork	
(A) Error-proof mechanisms;	(h) Communication systems: and	(b) Communication systems: and	
(B) Automatic alerts; and,	(i) Comprehension of operating and	(i) The understandability and clarity of operating	
(C) Automatic system shutdowns.	maintenance procedures.	and maintenance procedures.	
(6) The employer shall include an assessment of Human Factors in new and revised operating and maintenance	(5) The human factors analysis of process controls must include:	(5) The human factors analysis of process controls must include:	
procedures.	(a) Error-proof mechanisms;	(a) Error-proof mechanisms;	
(7) The employer shall train operating and	(b) Automatic alerts; and	(b) Automatic alerts; and	
Human Factors program.	(c) Automatic system shutdowns.	(c) Automatic system shutdowns.	
(8) The employer shall provide for employee participation in the Human Factors program, pursuant to subsection (q).	(6) The employer must include an assessment of human factors in new and revised operating and maintenance procedures.	(6) The employer must include an assessment of human factors in new and revised operating and maintenance procedures.	
(9) The employer shall make available and provide on request a copy of the written Human Factors program to employees	(7) The employer must train operating and maintenance employees in the written human factors program.	(7) The employer must train affected employees in the written human factors program.	
and their representatives and to affected		(8) The employer must make available, and	
contractors, employees of contractors, and	(8) The employer must provide for employee	provide upon request, a copy of the written human	
pursuant to subsection (q).	collaboration in the numan factors program.	representatives.	

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	(9) The employer must make available and provide on request, a copy of the written human factors program to employees and their	(9) The employer must provide for employee collaboration.	
	representatives and to affected contractors,		
	employees of contractors, and contractor		
	employee representatives		-
(x) Implementation	WAC 296-XX-XXX	WAC 296-67-XXXX	Commentary
	Implementation.	Corrective action program	
(1) The employer shall develop and	(1) The employer must develop, implement	(1) The employer must develop, implement and	At (11): Draft 1 had this
maintain an effective written corrective	and maintain an effective written corrective	maintain an effective written corrective action	language: "or during an
action program to prioritize and implement	action program to prioritize and implement the	program to prioritize and implement	outage or turnaround,
the recommendations of a PHA, SPA,	process safety performance indicators	recommendations of:	whichever comes first." This
DMR, HCA, Incident Investigation and	recommended as the result of a process		phrase was removed in our
Compliance Audit, pursuant to this section.	hazard analysis (PHA), safeguard protection	(a) Process hazard analyses (PHA);	2 nd draft, reverting it to the CA
	analysis (SPA), damage mechanism review		language which doesn't have
(2) All findings and associated	(DMR), hierarchy of hazard controls analysis	(b) Safeguard protection analyses (SPA);	that language.
recommendations must be provided to	(HCA), incident investigation and compliance		
the employer by the team performing the	audit, pursuant to this section.	(c) Damage mechanism reviews (DMR);	At (12): Draft 1 left out
review or analysis in a timely manner.			"unless the employer
	(2) All findings and associated	(d) Hierarchy of hazard controls analyses (HCA);	demonstrates in writing that it
(3) The employer may reject a team	recommendations must be provided to the		is infeasible to do so." We
recommendation if the employer can	employer by the team performing the review or	(e) Incident investigations; and	put it back in draft 2, reverting
demonstrate in writing that the	analysis.		to CA language.
recommendation meets one of the		(f) Compliance audits.	
following criteria:	(3) The employer may reject a team		At (16): We added this
	recommendation if the employer can	(2) All findings and associated recommendations	language which wash't in
(A) The analysis upon which the	demonstrate in writing that the	must be provided to the employer by the team	oran 1.
recommendation is based contains	recommendation meets one of the following	performing the analysis, review, investigation, or	
material factual errors;	criteria:	audit in a timely manner.	

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(B) The recommendation is not relevant to process safety; or,	(a) The analysis upon which the recommendation is based contains material factual errors:	(3) The employer may reject a team recommendation if the employer can demonstrate in writing that the recommendation	
(C) The recommendation is infeasible;		meets one of the following criteria:	
however, a determination of infeasibility	(b) The recommendation is not relevant to		
shall not be based solely on cost.	process safety; or	(a) The analysis upon which the recommendation is based contains material factual errors:	
(4) The employer may change a team	(c) The recommendation is infeasible; however,		
recommendation if the employer can	a determination of infeasibility must not be	(b) The recommendation is not relevant to process	
demonstrate in writing that an alternative	based solely on cost.	safety; or	
measure would provide an equivalent or			
higher order of inherent safety. The	(4) The employer may change a team	(c) The recommendation is infeasible; however, a	
recommondation for a safeguard if an	demonstrate in writing that an alternative	sololy on cost	
alternative safeguard provides an equally	measure would provide an equivalent or higher		
or more effective level of protection.	order of inherent safety. The employer may	(4) The employer may change a team	
	change a team recommendation for a	recommendation if the employer can demonstrate	
(5) The employer shall document all	safeguard if an alternative safeguard provides	in writing that an alternative measure would	
instances where any one of the criteria in $(x)(2)$ as $(x)(4)$ is used for the	an equally or more effective level of protection.	provide an equivalent or higher order of inherent	
subsections $(x)(3)$ or $(x)(4)$ is used for the	(5) The employer must decument all instances	safety. The employer may change a team	
recommendation	where any one of the criteria in subsections	safeguard provides an equally or more effective	
	xxxx is used for the purpose of rejecting or	level of protection.	
(6) Each recommendation that is changed	changing a team recommendation.		
or rejected by the employer shall be		(5) The employer must document all instances	
communicated to onsite team members for	(6) Each recommendation that is changed or	where any one of the criteria in subsection (3) or	
comment and made available to offsite	rejected by the employer must be	(4) of this section is used for the purpose of	
team members for comment. The	communicated to onsite team members for	rejecting or changing a team recommendation.	

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employer shall document all written comments received from team members	comment and made available to offsite team members for comment. The employer must	(6) Each recommendation that is changed or	
recommendation The employer shall	team members for each changed or rejected	to onsite team members for comment and made	
document a final decision for each	recommendation. The employer must	available to offsite team members for comment	
recommendation and shall communicate it	document a final decision for each	The employer must document all written	
to onsite team members and make it	recommendation and must communicate it to	comments received from team members for each	
available to offsite team members.	onsite team members and make it available to	changed or rejected recommendation. The	
	offsite team members.	employer must document a final decision for each	
(7) The employer shall develop and		recommendation and must communicate it to	
document corrective actions to implement	(7) The employer must develop and document	onsite team members and make it available to	
each accepted recommendation. The	corrective actions to implement each accepted	offsite team members.	
employer shall assign a completion date	recommendation. The employer must assign a	(7) The employer must develop and decument	
responsible for completing the corrective	a person responsible for completing the	corrective actions to implement each accepted	
action	corrective action	recommendation. The employer must assign a	
		completion date for each corrective action and a	
(8) If the employer determines that a	(8) If the employer determines that a corrective	person responsible for completing the corrective	
corrective action requires revalidation of	action requires revalidation of any applicable	action.	
any applicable PHA, SPA, HCA or DMR,	process hazard analysis (PHA), safeguard		
these revalidations shall be subject to the	protection analysis (SPA), hierarchy of hazard	(8) If the employer determines that a corrective	
corrective action requirements of this	controls analysis (HCA) or damage mechanism	action requires revalidation of any applicable	
subsection. The employer shall promptly	review (DIVIR), these revalidations must be	process nazard analysis (PHA), safeguard	
append all revaildated PHAS, SPAS,	subject to the corrective action requirements of	protection analysis (SPA), nierarchy of hazard	
	annend all revalidated PHAs SPAs DMRs	review (DMR) these revalidations must be subject	
(9) The employer shall promptly complete	and HCAs to the applicable report	to the corrective action requirements of this	
all corrective actions and shall comply with		section. The employer must promptly append all	
all completion dates required by this			

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subsection. The employer shall conduct an	(9) The employer must promptly complete all	revalidated PHAs, SPAs, DMRs, and HCAs to the	
MOC for any proposed change to a	corrective actions and must comply with all	applicable report.	
completion date, pursuant to subsection	completion dates required by this subsection.		
(n). The employer shall make all	The employer must conduct an MOC for any	(9) The employer must promptly complete all	
completion dates available, upon request,	proposed change to a completion date. The	corrective actions and must comply with all	
to all affected operation and maintenance	employer must make all completion dates	completion dates required by this chapter. The	
employees and employee representatives.	available, upon request, to all affected	employer must conduct an MOC for any proposed	
	operation and maintenance employees and	change to a completion date, pursuant to section	
(10) Except as required in subsections	employee representatives.	XXX. The employer must make all completion	
(x)(11) and $(x)(13)$, each corrective action		dates available, upon request, to all affected	
that does not require a process shutdown	(10) Except as required in subsections xxx and	employees and employee representatives.	
shall be completed within thirty (30)	xxx, each corrective action that does not		
months after the completion of the analysis	require a process shutdown must be completed	(10) Except as required by subsection (11) and	
or review, unless the employer	within thirty months after the completion of the	(13), each corrective action that does not require	
demonstrates in writing that it is infeasible	analysis or review, unless the employer	a process shutdown must be completed within	
to do so.	demonstrates in writing that it is infeasible to do	thirty months after the completion of the analysis	
	SO.	or review, unless the employer demonstrates in	
(11) Each corrective action from a		writing that it is infeasible to do so.	
Compliance Audit shall be completed	(11) Each corrective action from a compliance		
within eighteen (18) months after	audit must be completed within eighteen	(11) Each corrective action from a compliance	
completion of the audit, unless the	months after completion of the audit, unless the	audit must be completed within eighteen months	
employer demonstrates in writing that it is	employer demonstrates in writing that it is	after completion of the audit, unless the employer	
infeasible to do so. Each corrective action	infeasible to do so. Each corrective action from	demonstrates in writing that it is infeasible to do	
from an incident investigation shall be	an incident investigation must be completed	so. Each corrective action from an incident	
completed within eighteen (18) months	within eighteen months after completion of the	investigation must be completed within eighteen	
after completion of the investigation,	investigation or during an outage or turnaround,	months after completion of the investigation,	1
unless the employer demonstrates in	whichever comes first. If the employer deems	unless the employer demonstrates in writing that	
writing that it is infeasible to do so.	the corrective action timeline to be infeasible,	it is infeasible to do so.	1
	the employer must document the basis for that		
Process Safety COMPARISON: CALIFORNIA TITLE 8, DIVISION 1, CHAPTER Section 5189.1 (Process Safety Management for Petroleum Refineries) vs. CHAPTER 296-67 WAC (Process Safety Management of Highly Hazardous Chemicals) Discussion Draft Round 2, Part A

CALIFORNIA OCCUPATIONAL SAFETY AND	WAC 296-XX-XXX	WAC 296-XX-XXX	Commentary
HEALTH STANDARDS BOARD	Process Safety Requirements for Petroleum	Process Safety Requirements for Petroleum	
Chapter §5189.1. Process Safety	Refineries	Refineries, Part A	
Management for Petroleum Refineries.	Discussion Draft 1	Discussion Draft 2	

(12) Each corrective action requiring a	determination in writing that it is infeasible to do	(12) Each corrective action requiring a process	
process shutdown shall be completed	SO.	shutdown must be completed during the first	
during the first regularly scheduled		regularly scheduled turnaround of the applicable	
turnaround of the applicable process,	(12) Each corrective action requiring a process	process, following completion of the PHA, SPA,	
following completion of the PHA, SPA,	shutdown must be completed during the	DMR, HCA, MOC, compliance audit or incident	
DMR, HCA, MOC, Compliance Audit or	regularly scheduled turnaround of the	investigation, unless the employer demonstrates	
Incident Investigation, unless the employer	applicable process, following completion of the	in writing that it is infeasible to do so.	
demonstrates in writing that it is infeasible	PHA, SPA, DMR, HCA, MOC, Compliance		
to do so.	Audit or Incident Investigation.	(13) Notwithstanding sections (10), (11) and (12),	
		corrective actions addressing process safety	
(13) Notwithstanding subsections (x)(10),	(13) Notwithstanding subsections xxx and xxx,	hazards must be prioritized and promptly	
(x)(11) and $(x)(12)$, corrective actions	corrective actions addressing process safety	corrected, either through permanent corrections	
addressing process safety hazards shall	hazards must be prioritized and promptly	or interim safeguards sufficient to ensure	
be prioritized and promptly corrected,	corrected, either through permanent	employee safety and health, pending permanent	
either through permanent corrections or	corrections or temporary, interim safeguards	corrections.	
interim safeguards sufficient to ensure	sufficient to ensure employee safety and		
employee safety and health, pending	health, pending permanent corrections.	(14) Where a corrective action cannot be	
permanent corrections.		implemented within the time limits required in	
	(14) Where a corrective action cannot be	subsections (10), (11) or (12), the employer must	
(14) Where a corrective action cannot be	implemented within the time limits required in	ensure that interim safeguards are sufficient to	
implemented within the time limits required	subsections xxx the employer must ensure that	ensure employee safety and health, pending	
in subsections $(x)(10)$, $(x)(11)$ or $(x)(12)$,	interim safeguards are sufficient to ensure	permanent corrections. The employer must	
the employer shall ensure that interim	employee safety and health, pending	document the decision and rationale for any delay	
safeguards are sufficient to ensure	permanent corrections. The employer must	and must implement the corrective action as soon	
employee safety and health, pending	document the decision and rationale for any	as possible. The documentation must include:	
permanent corrections. The employer	delay and must implement the corrective action		
shall document the decision and rationale	as soon as possible. The documentation must	(a) The rationale for deferring the corrective	
for any delay and shall implement the	include:	action;	
corrective action as soon as possible. The			

Process Safety COMPARISON: CALIFORNIA TITLE 8, DIVISION 1, CHAPTER Section 5189.1 (Process Safety Management for Petroleum Refineries) vs. CHAPTER 296-67 WAC (Process Safety Management of Highly Hazardous Chemicals) Discussion Draft Round 2, Part A

CALIFORNIA OCCUPATIONAL SAFETY AND	WAC 296-XX-XXX	WAC 296-XX-XXX	Commentary
HEALTH STANDARDS BOARD	Process Safety Requirements for Petroleum	Process Safety Requirements for Petroleum	
Chapter §5189.1. Process Safety	Refineries	Refineries, Part A	
Management for Petroleum Refineries.	Discussion Draft 1	Discussion Draft 2	

documentation shall include:	(a) The rationale for deferring the corrective action;	(b) All MOC requirements, pursuant to WAC 296- XX-XXX ;	
(A) The rationale for deferring the corrective action;	(b) All MOC requirements;	(c) A revised timeline describing when the corrective action will be implemented; and	
(B) All MOC requirements, pursuant to subsection (n);	(c) A revised timeline describing when the corrective action will be implemented; and	(d) An effective plan to make available the rationale and revised timeline to all affected	
(C) A revised timeline describing when the corrective action will be implemented; and,	(d) An effective plan to make available the rationale and revised timeline to all affected	employees and their representatives.	
(D) An effective plan to make available the rationale and revised timeline to all	employees and their representatives.	(15) The employer must track and document the completion of each corrective action and must	
affected employees and their representatives.	(15) The employer must track and document the completion of each corrective action and	append the documentation to the applicable PHA, SPA, DMR, HCA, incident investigation or	
(15) The employer shall track and	must append the documentation to the applicable PHA, SPA, DMR, HCA, Incident	compliance audit.	
document the completion of each corrective action and shall append the	Investigation or compliance audit.	(16) For purposes of this section, a determination of infeasibility must not be based solely on cost.	
documentation to the applicable PHA, SPA, DMR, HCA, Incident Investigation or			
Compliance Audit.			